

David A. LaFuria
8300 Greensboro Dr.
Suite 1200
Tysons, VA 22102

dlafuria@fcclaw.com
(703) 584-8666
WWW.FCCLAW.COM



February 13, 2017

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W., Room TW-B204
Washington, DC 20554
Attn: Wireless Telecommunications Bureau

Re: WC Docket No. 10-90
WT Docket No. 10-208

Dear Ms. Dortch:

On behalf of Smith Bagley, Inc. ("SBI" or the "Company"), we write to supplement SBI's ex parte presentations submitted October 26, 2016, November 3, 2016, and November 7, 2016 in the above-referenced proceedings. Copies of these presentations are enclosed with this filing as Exhibits B (public copy only), C and D.

I. Overview

As the Commission considers reforms to Phase II of the Mobility Fund ("MFII") and the Tribal Mobility Fund ("Tribal MFII"),¹ it is critically important that areas of the country which have proven to be exceptionally difficult to serve be given special consideration.² Some of these Tribal lands are exceptional in virtually every way -- population densities less than 5 per

¹ The Commission, at its scheduled February 23, 2017, Open Meeting, will consider adopting rules to provide ongoing Mobility Fund support for high-speed mobile broadband and voice service in high-cost areas. FCC Open Meeting Agenda, *FCC Announces Tentative Agenda for February Open Meeting* (rel. Feb. 2, 2017).

² The Commission has consistently recognized that people living on Tribal lands historically have had less access to telecommunications services than other segments of the U.S. population, and that Tribal lands—many of which are located in rural, high-cost areas—"present distinct connectivity challenges." *Universal Service Reform – Mobility Fund*, WT Docket No. 10-208, Notice of Proposed Rulemaking, 25 FCC Rcd 14,716, 14,727 (¶ 33) (2010) (footnote omitted).

square mile across huge expanses, extremely poor demographics, very low business formation and economic activity, and oftentimes no access to high-speed connections needed to transport broadband traffic from cell sites to switch.

The Commission's recent Connect2Health initiative examined lack of broadband, low Internet adoption, diabetes, obesity, preventable hospitalizations, median income and population statistics to identify the 100 "Priority One Critical Need Counties" across the nation that are most in need of private investment and coordinated public support.³ Apache County in Arizona and McKinley and Cibola Counties in New Mexico are all included on the Commission's priority list. (Navajo County in Arizona would also have been listed, but for the fact that a very small portion of the county includes a summer resort area.) Apache, Navajo, and McKinley Counties contain substantial Tribal lands, including Navajo, Zuni, Hopi, and White Mountain Apache lands. Cibola County includes part of the Zuni Tribe, the Acoma and Laguna Pueblos, and the Ramah of Navajo.

Demographically, these counties rank near the bottom of all counties in the United States in many categories, including per capita income, education, and unemployment. While incredible progress has been made to increase household telephone penetration rates over the past sixteen years since the Tribal Lifeline program was initiated, as of 2015 **fully 15.5% of households on the Navajo Nation in AZ/NM/UT lack access to telephone service of any kind.**⁴ In its October 26, 2016 filing, SBI set forth substantial record evidence demonstrating that the areas it serves are dramatically different in character from ordinary rural areas in the Lower 48, and from most Tribal lands across the country.

Put simply, these extremely high-cost and remote Tribal lands would not have been built to today's level of telecommunications service without federal universal service support, nor is there any realistic possibility that they will be maintained and improved without a Mobility Fund support mechanism that is predictable and sufficient to accomplish the task. Accordingly, if the Commission takes away one thing from this presentation, it would be this:

It is an unacceptable result for any Tribal Mobility Fund Phase II process to conclude with extremely high-cost and remote areas receiving no ongoing support, or having their legacy support be discontinued or reduced.

³ See, <https://www.fcc.gov/sites/default/files/Priority-100-Counties.pdf>.

⁴ See, SBI's October 26, 2016 ex parte presentation at Exhibit B (public version). SBI notes that the Census Data provided therein includes estimates that, (1) 13.7% of households on the Navajo Nation do not have access to a vehicle; (2) 64.2% of households heat their dwellings with wood; (3) 18.5% lack complete plumbing facilities; and (4) 94.1% of renters pay less than \$1,000 per month, yet 22.2% pay over 33% of their gross income in rent.

As detailed in its confidential submission of October 26, 2016, SBI has built a business from scratch to serve areas that had less than 40% household telephone penetration in the 2000 Census. Purchasing spectrum and equipment, building over 220 cell sites, and upgrading and maintaining its infrastructure, has cost SBI hundreds of millions of dollars over the past twenty-six years. Now, the Company intends to upgrade its network to 4G LTE (in every place where high-speed transport is available) on Tribal lands and the surrounding areas.⁵

In the thirty years since cellular telephone service was inaugurated in our nation's rural areas, SBI is the only company that has demonstrated a willingness to build a high-quality mobile wireless telecommunications network on remote Tribal lands in Arizona, New Mexico and Utah. While SBI is mindful of the Commission's previous finding that legacy High-Cost support is not as well-targeted as it could be,⁶ such blanket statements do not apply in Tribal lands SBI serves. SBI has been demonstrably prudent and efficient in utilizing High-Cost and Lifeline support for both new capital expenditures and operating expenses, for the purpose of deploying and maintaining high-speed networks in its eligible service areas.

Without a stable and predictable source of federal universal service support, sufficient to ensure service to citizens living in these areas, SBI's investments will wither, basic telephone service will be threatened, and these citizens will be denied access to high-speed mobile broadband services.

II. A Flash Cut of Support Without a Stable Replacement Will Harm Tribal Citizens.

For sixteen years, SBI has constructed, upgraded and maintained a high-quality mobile wireless network on five extremely high-cost and remote Tribal lands, most of which would not be served by any carrier today but for the FCC's High-Cost and Lifeline programs. Over these many years, SBI has repeatedly praised the Commission for creating support mechanisms that have succeeded beyond all expectations on Tribal lands. SBI also commends the Commission for reforming its Lifeline program and for its efforts to weed out fly-by-night resale operators. The reasonable regulatory expectation of a stable support mechanism, without flash cuts affecting the availability and level of support when changes are implemented, has allowed SBI to invest hundreds of millions of dollars into its network.

On the Navajo, Hopi, Fort Apache (White Mountain), Ramah, and Zuni lands where SBI provides service, approximately \$7.7 million in annual legacy High-Cost support provides capital to maintain approximately 220 cell sites, many in extremely remote areas with less than five

⁵ For a breakdown of these costs, see SBI's October 26, 2016 ex parte presentation, at Exh. B.

⁶ See, e.g., *Connect America Fund, et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17827 (¶ 502) (2011).

people per square mile. Legacy support is being used to build new cell sites, improve backhaul networks, and perform necessary switch upgrades. This support also is planned for use in upgrading SBI's network to 4G LTE in 2017 and 2018. Worth noting, legacy support to SBI has been cut by 40% under the existing phase-down, yet SBI's network has expanded substantially over the past six years, and its operating expenses, such as site rents and maintenance costs, have steadily risen.

If the FCC flash cuts SBI's legacy high-cost support to zero on January 1, 2018, the effects on service in the region will be immediate and severe. Immediately upon adoption of such an order, SBI would be forced to postpone a substantial portion of its planned 4G LTE build-out beyond the major population centers and roads, namely, in any area where the provision of service could not generate a reasonable return on investment. In addition, SBI would look to reduce other expenses, in effect contracting its business to ensure that loan covenants are met.⁷

When moving to phase II of the Tribal Mobility Fund, the Commission CAN NOT allow the following to happen: The Navajo/Hopi/White Mountain Apache/Ramah/Zuni lands cannot be left out of the Tribal Mobility Fund support mechanism because all of the funding gets used up on lower-cost areas of the country. No matter how needy those other areas are, Tribal lands in Apache and Navajo Counties in Arizona and San Juan, McKinley and Cibola Counties in New Mexico cannot be left behind. The mission of the universal service program would be stood on its head if areas with the highest costs and most pressing needs were deprived of support. To avoid such a harmful result, the Commission must set aside a relatively small amount of support for these areas to ensure that mobile wireless service, including mobile broadband, is available in the future.

The efficiency of wireless in the areas served by SBI is extraordinary. SBI's tribal service area on the Navajo Nation alone is larger than West Virginia (27,425 square miles). The Hopi Nation is another 2,500 square miles, the Fort Apache (White Mountain) Reservation is 2,627 square miles, the Pueblo of Zuni is 723 square miles, and the Ramah is 230 square miles, for a total of 33,505 square miles. For only \$7.7 million per year of federal support, the Commission can enable SBI to achieve mobile wireless coverage throughout almost every area where people live, work and travel, and also enable SBI to deploy 4G LTE networks providing coverage throughout any area where high-capacity fiber connections can be deployed.

To be clear, for an annual investment of \$7.7 million the Commission would achieve service for \$231 per square mile per year. Or, the price of providing high-quality service to

⁷ Unlike many rural wireline companies, SBI does not receive subsidized loans from the federal government, nor does it use federal universal service subsidies to pay off subsidized federal loans. SBI invests its federal support into its network for the benefit of its customers.

approximately 300,000 people living on these five Tribal lands would be \$25.66 **per person per year (or \$2.00 per month)**. In a nearly \$10 billion dollar program, these are nominal figures.

In many remote areas where SBI has already built and is operating mobile wireless networks, no other carrier has bothered to construct facilities, including wireline carriers. This extraordinary circumstance affecting residents throughout SBI's Tribal service areas deserves special treatment by the Commission in fashioning its Mobility Fund Phase II support mechanism.

Below, SBI proposes a reform plan for any carrier serving Tribal lands that present a special case, and that therefore deserve special treatment by the Mobility Fund support mechanisms. It is designed to be available to all carriers serving Tribal lands, but only those serving in extraordinary conditions.

III. Proposals to Expand High-Quality Service on Remote Tribal Lands.

In its three filings from late 2016, SBI proposed a Tribal Lands Plan to use support going forward to accelerate investment on the neediest of Tribal lands. Below, we summarize and update that proposal, and offer an alternative.

i. Tribal Lands Plan – Telephone Penetration

As shown in SBI's October 26, 2016 ex parte, there is a severe mobile broadband deficit requiring significant investment to bring Tribal lands in this region up to a standard of service that is reasonably comparable to those in urban areas.⁸ For example, on the Navajo Nation, 15.5% of all occupied households (a total of 7,146 households) still do not have access to telephone service.⁹

SBI asks the FCC to consider the following plan to ensure that existing services are not lost, and that carriers have an opportunity and incentive to increase 4G LTE investment on these Tribal lands.¹⁰

SBI proposes that the Commission adopt a Tribal Lands Plan, similar to the plan adopted by the Commission for Alaska's mobile wireless carriers in August of 2016.¹¹ Among other

⁸ See, 47 U.S.C. § 254(b)(3).

⁹ See, Exhibit B, at Exh. 1.

¹⁰ A proposed Tribal Lands Plan is attached hereto as Exhibit A.

¹¹ See *Connect America Fund, et al.*, WC Docket No. 10-90, *et al.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 10,139 (2016) ("*Alaska Plan Order*").

things, the *Alaska Plan Order* froze support to competitive ETCs for ten years at the December 31, 2014 level, in exchange for certain performance commitments by participating carriers. As shown by the demographic data previously submitted into the record, some Tribal lands such as those served by SBI face similar challenges to those experienced in remote Alaskan villages.

SBI suggests that any carrier would be eligible to opt into the Tribal Lands Plan if it serves a rural Tribal land where less than 90% of households have no telephone service available in the most recent U.S. Census.¹² In broad outline, each qualifying mobile carrier choosing to participate would receive annual amounts of support equal to its competitive ETC support frozen at 2014 levels for a period of 10 years, and would replace the identical support phase down schedule for participating competitive ETCs.

Carriers participating in the Tribal Lands Plan would be required to comply with various public interest obligations, including:

(1) Provide a stand-alone voice service and offer to maintain the level of data service specified in individual plans approved by the Wireless Telecommunications Bureau (“Bureau”).

(2) Improve service consistent with performance plans approved by the Bureau. Performance plans would be required to include (a) a description of the carrier’s proposed network; (b) the level of technology (e.g., 2G, 3G, 4G LTE) that will be deployed on the network; (c) the eligible populations (as determined by the Commission) to be served at each technology level; and (d) the minimum download and upload speeds at each technology level.

(3) Certify compliance with the obligation to provide their customers with access to advanced communications that are reasonably comparable to those services and rates available in urban areas.

SBI suggests that the Commission should specify that carriers participating in the Plan would be authorized to use support for both operating expenses and capital expenses for new deployment, upgrades, and maintenance of mobile voice and broadband-capable networks.¹³

The goal of the Tribal Lands Plan would be to extend, insofar as practicable, 4G LTE service to distressed populations who are currently served by 2G or 3G service, and to fill in

¹² See Exhibit B, at Exh. 1. “Telephone service” refers to wireline retail voice telephone service connections (including both switched access lines and interconnected VoIP subscriptions), and mobile voice service subscriptions.

¹³ See *Alaska Plan Order*, *supra*, at 10,165 (¶ 81).

dead zones in remote areas with mobile wireless service, as opposed to satellite telephony, which is impractical and not mobile in areas where mobility is a critical functionality.¹⁴ SBI suggests, however, that, as was provided in the Alaska Plan, participants in the Tribal Lands Plan should “also be permitted in particular circumstances to maintain lower levels of technology to a subset of locations due to such limitations as difficult terrain or lack of access to ... middle mile infrastructure....”¹⁵ For the Commission’s reference, a draft rule was attached to SBI’s November 3, 2016 ex parte presentation.¹⁶

In suggesting a telephone penetration rate of 90% as the eligibility line, SBI looked at available data from the U.S. Census Bureau.¹⁷ A partial list of tribes below provides the Commission with a general understanding that this proposal would not extend to a substantial number of Tribal lands, only those where the digital divide is greatest.¹⁸

(remainder of page left blank)

¹⁴ In remote areas, the distances between homes and the next town can be many miles, making a mobile wireless phone a necessity when traveling, especially during periods of inclement weather in both winter and summer.

¹⁵ *Alaska Plan Order*, *supra*, at 10,167 (¶ 86).

¹⁶ See, Exhibit C attached hereto. The Proposed Tribal Plan Rule attached in Exhibit A is the same as the draft rule proposed by SBI in November, 2016, except that several prospective dates have been revised.

¹⁷ SBI excluded Alaska, as that state is the subject of the Alaska Plan and would be ineligible for support under this proposal.

¹⁸ Data set forth in the table was derived from the Census Bureau’s American Factfinder resource, through a search of Housing Characteristics, Telephone Service Available, and American Indian Areas/Alaska Native Areas/Hawaiian Home Lands within United States. The dropdown menu permits selection of individual Native American lands. See, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_DP04&prodType=table

Tribal Land	Percentage With No Telephone Service	Tribal Land	Percentage With No Telephone Service
Acoma, NM	10.0%	Miami, OK	5.5%
Blackfeet, MT	14.2%	Mississippi Choctaw Reservation, MS	11.9%
Caddo, OK	1.9%	Modoc, OK	2.4%
Celilo Village, OR	5.0%	Otoe-Missouria, OK	2.5%
Chickasaw, OK	2.6%	Ottawa, OK	4.4%
Choctaw, OK	4.6%	Paiute, UT	2.4%
Citizen Potawatomi Nation-Absentee Shawnee, OK	1.8%	Pawnee, OK	4.7%
Colville Reservation, WA	3.8%	Peoria, OK	3.1%
Cherokee, OK	2.5%	Pine Ridge, SD-NE	8.0%
Cheyenne, OK	2.0%	Ponca, OK	4.3%
Creek, OK	2.5%	Quapaw, OK	2.5%
Eastern Cherokee, NC	5.6%	Sac and Fox, OK	2.7%
Eastern Shawnee, OK	2.2%	Seminole, OK	3.3%
Fort Peck Indian Reservation, MT	15.7%	Seneca-Cayuga, OK	2.8%
Iowa, OK	3.6%	Standing Rock, ND-SD	3.3%
Karuk, CA	4.3%	Tonkawa, OK	1.8%
Kaw, OK	3.4%	Wyandotte, OK	2.3%
Kickapoo, OK	3.4%	Yurok, WA	11.6%
Kiowa-Comanche-Apache-Fort Sill Apache, OK	2.9%		

Of course, if the Commission wants to more aggressively attack the digital gap between remote Tribal lands and the rest of the nation, it could choose a telephone penetration rate higher than 90%. Using the chart above, choosing 93% would provide relief to the Pine Ridge Reservation.¹⁹

ii. Tribal Lands Plan – Broadband Availability

Alternatively, in fashioning a plan to help Tribal lands with extreme needs, the Commission may choose to focus on disparities in broadband availability on Tribal Lands. Under this alternative approach, SBI suggests that any carrier would be eligible to opt into the Tribal Lands Plan if it serves a rural Tribal land where a certain percentage of households do not have access to broadband service at download speeds at the Commission's specified level.

There is a wealth of broadband availability data compiled at the Commission's National Broadband Map, making it easy to decide which areas are most in need.²⁰ For example, under

¹⁹ Notably, none of Tribal lands profiled in the U.S. Census indicates that any of the Tribal lands in Oklahoma suffer from telephone penetration rates below 90%.

²⁰ See <https://www.broadbandmap.gov/native-nations>.

the Telephone Service Availability proposal above, the Fort Apache Reservation would not qualify for the Tribal Lands Plan, however using a broadband metric it clearly would qualify. As shown below, only 1.9% of Fort Apache citizens have access to wireline broadband at greater than 6 Mbps, compared to 94.2% of the U.S. Only 10.7% of Fort Apache have access to wireless broadband at greater than 6 Mbps, compared to 98.5% of the U.S.²¹

FORT APACHE RESERVATION, AZ				
Speed	Wireless Percent	Percentage Nationwide	Wireline Percent	Percentage Nationwide
>3Mbps Dn/>768kbps Up	10.7%	99.3%	44.0%	94.8%
Download > 3Mbps	10.7%	99.3%	84.5%	95.4%
Download > 6Mbps	10.7%	98.5%	1.9%	94.2%
Download > 10Mbps	10.7%	98.2%	1.9%	92.9%
Download > 25Mbps	0.0%	14.0%	0.9%	85.3%
Download > 50Mbps	0.0%	6.6%	0.9%	83.2%
Download > 100Mbps	0.0%	4.3%	0.0%	64.8%
Download > 1Gbps	0.0%	0.1%	0.0%	7.9%

These figures represent a huge digital divide that must be addressed. And, from SBI's experience, wireless is likely to be the most efficient and effective solution available. In areas where SBI has constructed towers, it is able to offer both mobile and fixed wireless broadband solutions to rural citizens. Access to support that is reasonably certain and sufficient will enable SBI to deliver upgraded 4G LTE broadband far earlier than fixed landline solutions, at a much lower cost.

III. Concluding Remarks.

Tribal Lands that suffer most from a lack of high-quality mobile coverage and mobile broadband service must receive special treatment in this second stage of the Mobility Fund. SBI has proposed two options to ensure that support is targeted to Tribal Lands most in need of investment to close the digital divide.

²¹ See <https://www.broadbandmap.gov/summarize/native-nations/fort-apache>.

Stable funding and meaningful, achievable performance requirements are essential to advancing universal service and infrastructure development in hard to reach areas. For example, stable funding to mobile broadband carriers makes it more likely that middle-mile providers will invest in facilities needed to deliver 4G LTE services.

Commissioner Clyburn, on her recent trip to Torreon, New Mexico on the Navajo Nation, noted that the community's cell site is located more than 80 miles from the nearest fiber facility, or six microwave hops.²² The Commission has now established a broadband performance goal of 10/1 Mbps throughout the nation, including Tribal lands.²³ That goal is achievable on Tribal lands where SBI provides service only if robust 4G LTE networks are deployed, because many areas such as Torreon are unlikely to see a fiber to the home (FTTH) deployment any time soon, if ever.

We trust that you will find this information to be useful. Should you have any questions, please contact undersigned counsel directly.

Sincerely,



David A. LaFuria
Counsel for Smith Bagley, Inc.

cc:	Hon. Ajit Pai	Trent Harkrader
	Hon. Mignon Clyburn	James Schlichting
	Hon. Michael O'Rielly	Margaret Wiener
	Nicholas Degani	Sue McNeil
	Rachael Bender	Charles Eberle
	Jay Schwarz	Chris Helzer
	Claude Aiken	Paroma Sanyal
	Daudeline Meme	Mark Montano
	Amy Bender	
	Erin McGrath	

²² Commissioner Mignon Clyburn, "Tackling the Connectivity Challenges of Rural America: My Journey to New Mexico and Navajo Nation" (blog post dated Aug. 15, 2016), available at <https://www.fcc.gov/news-events/blog/2016/08/15/tackling-connectivity-challenges-rural-america-my-journey-new-mexico-and>.

²³ See, *Connect America Fund et al.*, Report and Order, 29 FCC Rcd 15,644, 15,649 (¶15) (2014).

Exhibit A

SBI Proposed Tribal Lands Plan Rule

§54.____ Tribal Lands Plan for competitive eligible telecommunications carriers serving remote Tribal Lands.

(a) *Election of support.* Subject to the requirements of this section, competitive eligible telecommunications carriers serving Tribal Lands as defined in 47 C.F.R. §54.400(e), shall have a one-time option to elect to participate in the Tribal Lands Plan. Carriers exercising this option with approved performance plans shall have their support frozen for a period of ten years beginning on January 1, 2018.

(b) *Carriers eligible for support.* A competitive eligible telecommunications carrier shall be eligible for frozen support pursuant to the Tribal Lands Plan if that carrier serves Tribal Lands having a household telephone penetration rate of less than 90%, as shown in the 2010 U.S. Census, and if that carrier certified that it served Covered Locations in its September 30, 2011 filing of line counts with the Administrator, and submits a performance plan by September 30, 2017.

(c) *Support amounts and support term.* For a period of 10 years beginning on January 1, 2018, each Tribal Lands Plan participant shall receive monthly Tribal Lands Plan support in an amount equal to the annualized monthly support amount it received for December 2014. Tribal Lands Plan participants shall no longer be required to file line counts.

(d) *Use of frozen support.* Frozen support allocated through the Tribal Lands Plan may only be used to provide mobile voice and mobile broadband service in those census blocks on covered Tribal Lands within the carrier's ETC service area that did not, as of December 31, 2014, receive 4G LTE service directly from providers that were unsubsidized and covering, in the aggregate, at least 85 percent of the population of the block. Nothing in this section shall be interpreted to limit the use of frozen support to build or upgrade middle-mile infrastructure outside covered Tribal Lands if such middle mile infrastructure is necessary to the provision of mobile voice and mobile broadband service on covered Tribal Lands. Tribal Lands Plan participants may use frozen support to provide mobile voice and mobile broadband service on covered Tribal Lands served by competitive eligible telecommunications carrier partners of ineligible carriers if those areas are served using the competitive eligible telecommunications carrier's infrastructure.

(e) *Performance plans.* In order to receive support pursuant to this section, a competitive eligible telecommunications carrier must be subject to a performance plan approved by the Wireless Telecommunications Bureau. The performance plan must indicate specific deployment obligations and performance requirements sufficient to demonstrate that support is being used in the public interest and in accordance with paragraph (d) of this section and the requirements adopted by the Commission for the Tribal Lands Plan. For each level of wireless service offered (2G/Voice, 3G, and 4G LTE) and each type of middle mile used in connection with that level of service, the performance plan must specify minimum speeds that will be offered to a specified population by the end of the fifth year of support and by the end of the tenth year of support. Tribal Lands Plan participants shall, no later than the end of the fourth year of the ten-year term, review and modify their end-of-term commitments in light of any new developments, including newly available infrastructure. The Wireless Telecommunications Bureau may require the filing of revised commitments at other times if justified by developments that occur after the approval of the initial performance commitments. If the specific performance obligations are not achieved in the time period identified in the approved performance plans the carrier shall be subject to §54.320(c) and (d) of this chapter.

SBI October 26, 2016 Ex Parte Presentation (public version)

8300 Greensboro Dr.
Suite 1200
McLean, VA 22102

(703) 584-8666
WWW.FCCLAW.COM



October 26, 2016

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W., Room TW-B204
Washington, DC 20554
Attn: Wireless Telecommunications Bureau

Re: WC Docket No. 10-90
WT Docket No. 10-208

Dear Ms. Dortch:

On behalf of Smith Bagley, Inc. (“SBI” or the “Company”), we write to provide the Commission with information for the record in the above-captioned proceedings and a recommendation for further action. As the Commission considers reforms to Phase II of the Mobility Fund (“MFII”) and the Tribal Mobility Fund (“Tribal MFII”), it is critically important that areas of the country which have proven to be exceptionally difficult to serve be given special consideration. In this presentation, SBI describes the need for support, and recommends special treatment for carriers serving remote Tribal lands.¹

SBI’s Efforts to Bring Service to High-Cost and Tribal Areas

SBI provides commercial mobile wireless services, as well as ancillary services such as fixed wireless Internet access and business services on Navajo, Hopi, Zuni, Ramah Navajo, and White Mountain Apache lands in Arizona, New Mexico, and Utah, as well as substantial non-

¹ The Commission has consistently recognized that people living on Tribal lands historically have had less access to telecommunications services than other segments of the U.S. population, and that Tribal lands—many of which are located in rural, high-cost areas—“present distinct connectivity challenges.” *Universal Service Reform – Mobility Fund*, WT Docket No. 10-208, Notice of Proposed Rulemaking, 25 FCC Rcd 14,716, 14,727 (¶ 33) (2010) (footnote omitted).

Tribal rural areas in the region. Since the Commission adopted its Tribal Lifeline Order in 2000,² SBI has embarked on a mission to construct modern telecommunications facilities throughout these remote Tribal lands. This project, made possible solely because of the High-Cost and Tribal Lifeline programs, has resulted in an increase in rural cell sites from 17 to [], with [] being located on Tribal Lands.

SBI has purchased new equipment, including 2G/3G/HSPA+ technology, point-to-point microwave equipment, switching facilities and switch core investments, along with other plant, construction equipment, repair trucks, and related facilities to build and operate its network at a cost of []. In addition, the Company has purchased, either on the open market or at FCC auction, spectrum assets valued at over [], without which it could not provide coverage, nor could it even consider a 4G LTE upgrade that it is now undertaking. Today, the Company has over [] customers, with more than 75,000 subscribers accessing Lifeline benefits to gain access to basic telephone services, as well as 2G/3G data services.

The Commission's recent Connect2Health initiative examined lack of broadband, low Internet adoption, diabetes, obesity, preventable hospitalizations, median income and population statistics to identify the 100 "Priority One Critical Need Counties" across the nation that are most in need of private investment and coordinated public support.³

Apache County in Arizona and McKinley and Cibola Counties in New Mexico are all included on the Commission's priority list. (Navajo County in Arizona would also have been listed, but for the fact that a very small portion of the county includes a summer resort area.) Apache, Navajo, and McKinley Counties contain substantial Tribal lands, including Navajo, Zuni, Hopi, and White Mountain Apache lands. Cibola County includes part of the Zuni Tribe, the Acoma Pueblo, and the Ramah of Navajo.

Demographically, these counties rank near the bottom of all counties in the United States in many categories, including per capita income, education, and unemployment. They are sparsely populated, with vast stretches of land in the counties having less than five people per square mile. In the 2000 Census, less than 40% of households on the Navajo Nation had

² *Federal-State Joint Board on Universal Service; Promoting Deployment and Subscribership in Unserved and Underserved Areas, Including Tribal and Insular Areas*, Twelfth Report and Order, Memorandum Opinion and Order, and Further Notice of Proposed Rulemaking, 15 FCC Rcd 12,208 (2000) ("Tribal Lifeline Order").

³ See, <https://www.fcc.gov/sites/default/files/Priority-100-Counties.pdf>.

access to a telephone of any kind.⁴ That is, just sixteen years ago, over 60% of Navajo residents had to go outside of the house, to a community pay phone or a neighbor, to place or receive a call.

Further, poverty is an endemic feature of life in the Navajo Nation. A report prepared by the Arizona Rural Policy Institute, using 2010 Census data and 2010 American Community Survey estimates, indicates that:

Poverty rates on the Navajo Nation Reservation (38%) are more than twice as high as poverty rates in the State of Arizona (15%). Almost half (44%) of all children under 18 years of age are considered to be living in poverty, while one-third (34%) of tribal members between 18 and 64 also live in poverty. Almost one-third (29%) of persons living in families on the Navajo Nation live in poverty, twice the rate of families living in poverty in the State of Arizona (13%), for example. More than one-third of all persons over age 65 (39%) also live in poverty, five times higher than the State of Arizona (8%) for this age group.⁵

The combination of low population density and poor demographics made it impossible for SBI (or other carriers) to invest in new cell sites outside of towns and through roads.⁶ In 2000, after seven years in business, SBI was able to build only five cell sites on Tribal lands. The tide began to turn, however, in the wake of the adoption of the Tribal Lifeline Order. Construction of new cell sites throughout Tribal lands has dramatically reduced the number of households lacking telephone service. As evidence that the Commission's commitment to Tribal lands has been effective over the past sixteen years, SBI attaches as Exhibit 1, a table from the U.S. Census estimating that as of 2015, 15.5% of households on the Navajo Nation in

⁴ See, Telephone Penetration by Income by State (Data Through 1999), Industry Analysis Div., Common Carrier Bur., FCC (March, 2000) at 4, accessed at http://transition.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/pntris99.pdf; U.S. Gen. Accountability Office, *Challenges to Assessing and Improving Telecommunications for Native Americans on Tribal Lands* at 14 & Fig. 3 (2006), accessed at <http://www.gao.gov/products/GAO-06-189>.

⁵ Arizona Rural Policy Institute, *Demographic Analysis of the Navajo Nation Using 2010 Census and 2010 American Community Survey Estimates* (2013), at 34. Unpublished.

⁶ For example, according to the 2010 Census, Navajo County, AZ, even including non-Tribal lands, has only 10.8 inhabitants per square mile, while Apache County, AZ, including non-Tribal lands, has only 6.4. See <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>. On Tribal lands within these counties, many areas are below 5 inhabitants per square mile.

AZ/NM/UT lack access to telephone service.⁷ This represents tremendous progress in delivering basic telecommunications services, which Americans have taken for granted for most of a century, to hundreds of thousands of people on Tribal lands. Yet, there is much more work to be done.

SBI is now prepared to invest over [] in capital and operating expenses on Tribal lands it serves over the next five years, to improve its coverage and upgrade its network to 4G LTE. Reforms to MFII and Tribal MFII, along with changes SBI has previously urged with respect to the Tribal Lifeline program,⁸ will determine how much investment all carriers will be capable of making on Tribal lands, some of which as noted above, still lack basic infrastructure.

To illustrate the challenges, we have attached as Exhibit 2 hereto a map based on the FCC's recently released Form 477 data, showing the coverage of the "big four" carriers, Choice Wireless, and SBI, overlaid on SBI's licensed service area boundary.⁹ The map shows vast gaps in 4G LTE coverage, especially in Arizona's Apache and Navajo counties. The geography in Arizona and New Mexico having no 4G LTE service is roughly the size of South Carolina, with less than 250,000 inhabitants. This area, a portion of which has 2G/3G service today and limited access to high-speed backhaul facilities, is demonstrably and extraordinarily difficult to serve.

The Need for Continuing Support on Remote Tribal Lands.

Today, SBI's 3G/HSPA+ network serves consumers and businesses at speeds often approaching or exceeding 4/1 Mbps in some areas. Achieving higher speeds depends on access to sufficient spectrum, as well as access to high-speed point-to-point backhaul networks, both fiber and microwave, so that throughput between cell sites and the switch is sufficient to deliver speeds consumers expect.

⁷ SBI is constrained to note here that the attached Census data includes estimates that, (1) 13.7% of households do not have access to a vehicle; (2) 64.2% of households heat their dwellings with wood; (3) 18.5% lack complete plumbing facilities; and (4) 94.1% of renters pay less than \$1,000 per month, yet 22.2% of renters pay over 33% of their gross income in rent.

⁸ See Letter from David LaFuria, Counsel to SBI, dated March 14, 2016 in WC Docket No. 11-42, at <https://ecfsapi.fcc.gov/file/60001675340.pdf> ("SBI Lifeline ex parte").

⁹ Although, on information and belief, the Form 477 data overstates coverage in SBI's area, the map still shows large areas without access to 4G LTE. See *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services*, Nineteenth Report, WT Docket No. 16-137, DA 16-1061 (rel. Sept. 23, 2016) at ¶ 95.

While SBI is mindful of the Commission’s previous finding that legacy High-Cost support is not as well-targeted as it could be,¹⁰ such blanket statements do not apply in Tribal lands SBI serves. SBI utilizes High-Cost and Lifeline support for both new capital expenditures and operating expenses, for the purpose of deploying and maintaining high-speed networks in its eligible service areas. For example, starting in 2013, SBI invested over [] to build 3G/HSPA+ networks throughout most of its network, including the expansion of needed backhaul facilities.

To demonstrate how important universal service support is to upgrading infrastructure, SBI has enclosed as Exhibit 3 a confidential summary of capital investments and annual operating expenses it is prepared to invest. There are two components to this analysis. First, the capital and operating costs of upgrading SBI’s existing network to 4G LTE. Second, the capital and operating costs of building [] new cell sites to provide high-quality service in the more remote portions of SBI’s Tribal service areas.

Upgrading Existing Network to 4G LTE

With respect to the capital cost of upgrading its existing network on Tribal lands to LTE, SBI estimates the cost to be [], broken out as follows:

LTE Cell Site Equipment	[]
Hardware/Licenses at Switch Core	[]
Fiber Construction	[]
Microwave Backhaul Upgrade	[]

SBI estimates the **annual** cost of operating an LTE network using existing cell sites on Tribal lands to be [], broken out as follows:

Increased Fiber Lease Costs	[]
Increased Cell Site Rents/Maintenance	[]
LTE Core/Cell Site Software and Support	[]
Increase in Non-Network Operating Costs	[]

¹⁰ See, e.g., *Connect America Fund, et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17827 (¶ 502) (2011).

In sum, on Tribal lands, in order to upgrade its existing 3G/HSPA+ network to 4G LTE technology and maintain it over a five-year period, SBI estimates that it will invest [] in capital, plus [] in total operating costs, for a total of [].

Constructing New Towers on Tribal Lands

In addition to upgrading its existing network, SBI plans to build [] new cell sites on Tribal lands. The capital cost of building these new cell sites is estimated to be [], broken out as follows:

Cell Site Construction/LTE Equipment/Backhaul	[]
Microwave Construction/Upgrade	[]
Fiber Construction	[]

Once all [] sites are constructed, SBI estimates the **annual** cost of operating an LTE network on these new towers to be [], broken out as follows:

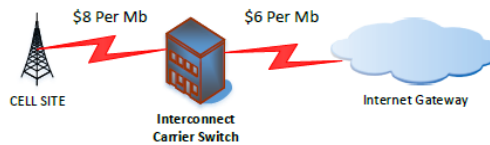
Cell Site Rent/Maintenance	[]
Fiber Lease Costs	[]
LTE Core/Cell Site Software and Support	[]

To build [] new 4G LTE cell sites and operate them over a five-year period, SBI estimates that it will invest [] in capital, plus [] in total operating costs, for a total of [].

Combining the 4G LTE upgrade and adding [] new cell sites, SBI estimates the total cost over the next five years to be []. These extraordinary numbers highlight two critical aspects of operating on Tribal lands. First, the lack of existing infrastructure requires far more new construction than would be required in most non-Tribal lands. For example, there are fewer towers on which to collocate and many areas on Tribal lands require multiple microwave links to reach.

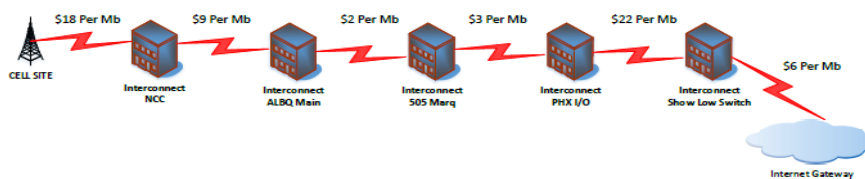
Second, there are fewer competitive options for facilities, raising the cost of transporting traffic to extraordinary levels. In a typical urban area, the cost of transporting traffic is approximately \$1,400.00 per month for 100 Mb of throughput (\$14.00 per Mb x 100), illustrated as follows:

Denver / Metro Area



On rural Tribal lands, SBI often pays as much as \$6,000.00 per month for 100 Mb of throughput (\$60.00 per Mb x 100), in large part because it is required to lease as many as six different paths to bring traffic from its cell site to the Internet, illustrated as follows:

SBI Tribal / Rural Area



To be clear, many of SBI's remote cell sites must send traffic to Albuquerque, NM, then on to Phoenix, AZ, and then back to the switch in Show Low, AZ. This lack of backhaul infrastructure exists because of decades of underinvestment in these areas. While SBI is constantly looking for ways to cut this recurring cost to run its Tribal network, these costs are expected to continue at these levels until additional facilities are constructed to provide carriers such as SBI with alternatives.

Proposal to Expand High-Quality Service on Remote Tribal Lands.

As shown in Exhibit 2, there is a severe mobile broadband deficit requiring significant investment to bring Tribal lands in this region up to a standard of service that is reasonably comparable to those in urban areas.¹¹ As shown in Exhibit 3, the amount of investment needed is extraordinary, and cannot be made in remote areas without the assistance of a robust federal universal service support mechanism. Accordingly, SBI asks the FCC to consider the following plan to ensure that existing services are not lost, and that carriers have an opportunity and incentive to increase 4G LTE investment on these Tribal lands.

¹¹ See, 47 U.S.C. Section 254(b)(3).

SBI proposes that the Commission adopt a Remote Tribal Areas Plan, similar to the plan adopted by the Commission for Alaska’s mobile wireless carriers in August of 2016.¹² Among other things, the Alaska Plan Order froze support to competitive ETCs for ten years at the December 31, 2014 level, in exchange for certain performance commitments by participating carriers. As shown by the demographic data previously submitted into the record, some Tribal lands such as those served by SBI face similar challenges to those experienced in remote Alaskan villages.

SBI suggests that any carrier should be eligible to opt in to the Remote Tribal Areas Plan if it serves a rural Tribal land with less than 90% adoption of telephone service as shown in the most recent U.S. Census. While SBI believes there is ample public information and evidence in the record of this proceeding concerning the significant disadvantages in many Tribal lands, the Commission may choose to open a further notice of proposed rulemaking that would explore, on a more detailed level, rules allowing carriers serving remote Tribal lands to opt into the Remote Tribal Areas Plan or a similar alternative plan.

The Remote Tribal Areas Plan would be based on the Alaska Plan, and, in broad outline, would provide that each qualifying mobile carrier choosing to participate would receive annual amounts of support equal to its competitive ETC support frozen at 2014 levels. The support would be frozen at these levels for 10 years, and would replace the identical support phase down schedule for participating competitive ETCs.

Carriers participating in the Remote Tribal Areas Plan would be required to comply with various public interest obligations, including:

(1) Provide a stand-alone voice service and offer to maintain the level of data service specified in individual plans approved by the Wireless Telecommunications Bureau (“Bureau”).

(2) Improve service consistent with performance plans approved by the Bureau. Performance plans would be required to include (a) a description of the carrier’s proposed network; (b) the level of technology (e.g., 2G, 3G, 4G LTE) that will be deployed on the network; (c) the eligible populations (as determined by the Commission) to be served at each technology level; and (d) the minimum download and upload speeds at each technology level.

¹² See *Connect America Fund, et al.*, WC Docket No. 10-90, *et al.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 10,139 (2016) (“Alaska Plan Order”).

(3) Certify compliance with the obligation to provide their customers with access to advanced communications that are reasonably comparable to those services and rates available in urban areas.

A support term of 10 years would apply to carriers participating in the Remote Tribal Areas Plan, and the participating carriers would be required to file updated proposed deployment obligations during the 10-year term. SBI suggests that the Commission should specify that carriers participating in the Plan would be authorized to use support for both operating expenses and capital expenses for new deployment, upgrades, and maintenance of mobile voice and broadband-capable networks.¹³

As a general matter, the goal of the Remote Tribal Areas Plan would be to extend, insofar as practicable, 4G LTE service to populations who are currently served by 2G or 3G service. SBI suggests, however, that, as was provided in the Alaska Plan, participants in the Remote Tribal Areas Plan should “also be permitted in particular circumstances to maintain lower levels of technology to a subset of locations due to such limitations as difficult terrain or lack of access to ... middle mile infrastructure”¹⁴

A further notice of proposed rulemaking could also consider additional issues, such as coverage requirements, policies related to duplicative support, and interim performance milestone requirements.

In SBI’s view, stable funding and meaningful, achievable performance requirements are essential to advancing universal service and infrastructure development in hard to reach areas. For example, stable funding to mobile broadband carriers makes it more likely that middle-mile providers would invest in facilities needed to deliver 4G LTE services. SBI further suggests that legacy High-Cost support being provided to carriers serving remote Tribal lands should continue to be frozen until the Commission acts on a new Tribal lands rulemaking.

* * * * *

¹³ See *id.* at 10,165 (¶ 81).

¹⁴ *Id.* at 10,167 (¶ 86).

Commissioner Clyburn, on her recent trip to Torreon, New Mexico, noted that the community's cell site is located more than 80 miles from the nearest fiber facility, or six microwave hops.¹⁵ In its Lifeline *ex parte, supra*, SBI explained that the current Lifeline program does not allow a return on the investments proposed above, especially in remote areas such as Torreon, even on a long-term horizon.

In closing, the Commission has now established a broadband performance goal of 10/1 Mbps throughout the nation, including Tribal lands.¹⁶ That goal is achievable on Tribal lands where SBI serves only if robust 4G LTE networks are deployed, because many areas are unlikely to see a fiber to the home (FTTH) deployment, ever.

(remainder of page blank)

¹⁵ Commissioner Mignon Clyburn, "Tackling the Connectivity Challenges of Rural America: My Journey to New Mexico and Navajo Nation" (blog post dated Aug. 15, 2016), available at <https://www.fcc.gov/news-events/blog/2016/08/15/tackling-connectivity-challenges-rural-america-my-journey-new-mexico-and>.

¹⁶ See, *Connect America Fund et al.*, Report and Order, 29 FCC Rcd 15,644, 15,649 (¶15) (2014).

We trust that you will find this information to be useful. Should you have any questions, please contact undersigned counsel directly.

Sincerely,



David A. LaFuria
Counsel for Smith Bagley, Inc.

cc: Hon. Thomas Wheeler
Hon. Mignon Clyburn
Hon. Jessica Rosenworcel
Hon. Ajit Pai
Hon. Michael O’Rielly
Philip Verveer
Gigi Sohn
Edward Smith
Claude Aiken
Daudeline Meme
Travis Litman
Erin McGrath
Nicholas Degani
Jon Wilkins
Matthew DelNero
Trent Harkrader
James Schlichting
Margaret Wiener
Sue McNeil
Charles Eberle
Chris Helzer
Kelly Quinn
Eliot Maenner
Paroma Sanyal
Mark Montano
Irene Flannery

Exhibit 1

US Census Data



DP04

SELECTED HOUSING CHARACTERISTICS

2015 American Community Survey 1-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Subject	Navajo Nation Reservation and Off-Reservation Trust Land, AZ--NM--UT			
	Estimate	Margin of Error	Percent	Percent Margin of Error
HOUSING OCCUPANCY				
Total housing units	68,019	+/-1,948	68,019	(X)
Occupied housing units	46,212	+/-1,777	67.9%	+/-1.4
Vacant housing units	21,807	+/-1,062	32.1%	+/-1.4
Homeowner vacancy rate	0.0	+/-0.1	(X)	(X)
Rental vacancy rate	7.5	+/-2.1	(X)	(X)
UNITS IN STRUCTURE				
Total housing units	68,019	+/-1,948	68,019	(X)
1-unit, detached	48,664	+/-1,651	71.5%	+/-1.4
1-unit, attached	1,378	+/-348	2.0%	+/-0.5
2 units	974	+/-245	1.4%	+/-0.4
3 or 4 units	1,206	+/-310	1.8%	+/-0.5
5 to 9 units	529	+/-209	0.8%	+/-0.3
10 to 19 units	238	+/-198	0.3%	+/-0.3
20 or more units	16	+/-27	0.0%	+/-0.1
Mobile home	14,974	+/-995	22.0%	+/-1.3
Boat, RV, van, etc.	40	+/-65	0.1%	+/-0.1
YEAR STRUCTURE BUILT				
Total housing units	68,019	+/-1,948	68,019	(X)
Built 2014 or later	215	+/-146	0.3%	+/-0.2
Built 2010 to 2013	875	+/-228	1.3%	+/-0.3
Built 2000 to 2009	9,604	+/-862	14.1%	+/-1.2
Built 1990 to 1999	16,197	+/-1,046	23.8%	+/-1.3
Built 1980 to 1989	16,045	+/-855	23.6%	+/-1.1
Built 1970 to 1979	13,823	+/-889	20.3%	+/-1.1
Built 1960 to 1969	7,662	+/-723	11.3%	+/-1.1
Built 1950 to 1959	2,261	+/-392	3.3%	+/-0.6
Built 1940 to 1949	748	+/-217	1.1%	+/-0.3
Built 1939 or earlier	589	+/-182	0.9%	+/-0.3

Subject	Navajo Nation Reservation and Off-Reservation Trust Land, AZ--NM--UT			
	Estimate	Margin of Error	Percent	Percent Margin of Error
ROOMS				
Total housing units	68,019	+/-1,948	68,019	(X)
1 room	12,521	+/-827	18.4%	+/-1.1
2 rooms	5,531	+/-551	8.1%	+/-0.7
3 rooms	5,948	+/-524	8.7%	+/-0.8
4 rooms	14,596	+/-851	21.5%	+/-1.2
5 rooms	19,893	+/-1,101	29.2%	+/-1.3
6 rooms	6,370	+/-561	9.4%	+/-0.8
7 rooms	1,965	+/-326	2.9%	+/-0.5
8 rooms	676	+/-216	1.0%	+/-0.3
9 rooms or more	519	+/-189	0.8%	+/-0.3
Median rooms	4.2	+/-0.1	(X)	(X)
BEDROOMS				
Total housing units	68,019	+/-1,948	68,019	(X)
No bedroom	12,730	+/-853	18.7%	+/-1.1
1 bedroom	8,595	+/-696	12.6%	+/-1.0
2 bedrooms	16,209	+/-952	23.8%	+/-1.3
3 bedrooms	23,790	+/-1,279	35.0%	+/-1.5
4 bedrooms	5,611	+/-559	8.2%	+/-0.8
5 or more bedrooms	1,084	+/-253	1.6%	+/-0.4
HOUSING TENURE				
Occupied housing units	46,212	+/-1,777	46,212	(X)
Owner-occupied	35,751	+/-1,514	77.4%	+/-1.5
Renter-occupied	10,461	+/-823	22.6%	+/-1.5
Average household size of owner-occupied unit	3.81	+/-0.16	(X)	(X)
Average household size of renter-occupied unit	3.72	+/-0.25	(X)	(X)
YEAR HOUSEHOLDER MOVED INTO UNIT				
Occupied housing units	46,212	+/-1,777	46,212	(X)
Moved in 2015 or later	1,458	+/-398	3.2%	+/-0.8
Moved in 2010 to 2014	7,321	+/-828	15.8%	+/-1.7
Moved in 2000 to 2009	12,496	+/-991	27.0%	+/-1.7
Moved in 1990 to 1999	11,488	+/-845	24.9%	+/-1.7
Moved in 1980 to 1989	7,191	+/-652	15.6%	+/-1.3
Moved in 1979 and earlier	6,258	+/-621	13.5%	+/-1.3
VEHICLES AVAILABLE				
Occupied housing units	46,212	+/-1,777	46,212	(X)
No vehicles available	6,335	+/-632	13.7%	+/-1.2
1 vehicle available	17,545	+/-1,125	38.0%	+/-1.9
2 vehicles available	13,259	+/-1,014	28.7%	+/-1.9
3 or more vehicles available	9,073	+/-683	19.6%	+/-1.4
HOUSE HEATING FUEL				
Occupied housing units	46,212	+/-1,777	46,212	(X)
Utility gas	5,005	+/-575	10.8%	+/-1.1
Bottled, tank, or LP gas	3,856	+/-490	8.3%	+/-1.0
Electricity	5,584	+/-604	12.1%	+/-1.3
Fuel oil, kerosene, etc.	129	+/-96	0.3%	+/-0.2
Coal or coke	276	+/-113	0.6%	+/-0.2
Wood	29,656	+/-1,362	64.2%	+/-1.6
Solar energy	80	+/-81	0.2%	+/-0.2
Other fuel	1,408	+/-348	3.0%	+/-0.7
No fuel used	218	+/-120	0.5%	+/-0.3

Subject	Navajo Nation Reservation and Off-Reservation Trust Land, AZ--NM--UT			
	Estimate	Margin of Error	Percent	Percent Margin of Error
SELECTED CHARACTERISTICS				
Occupied housing units	46,212	+/-1,777	46,212	(X)
Lacking complete plumbing facilities	8,537	+/-779	18.5%	+/-1.5
Lacking complete kitchen facilities	6,361	+/-691	13.8%	+/-1.4
No telephone service available	7,146	+/-673	15.5%	+/-1.3
OCCUPANTS PER ROOM				
Occupied housing units	46,212	+/-1,777	46,212	(X)
1.00 or less	37,773	+/-1,620	81.7%	+/-1.6
1.01 to 1.50	3,847	+/-521	8.3%	+/-1.1
1.51 or more	4,592	+/-503	9.9%	+/-1.0
VALUE				
Owner-occupied units	35,751	+/-1,514	35,751	(X)
Less than \$50,000	18,421	+/-1,101	51.5%	+/-2.1
\$50,000 to \$99,999	9,027	+/-733	25.2%	+/-1.7
\$100,000 to \$149,999	3,731	+/-466	10.4%	+/-1.3
\$150,000 to \$199,999	2,532	+/-435	7.1%	+/-1.2
\$200,000 to \$299,999	871	+/-241	2.4%	+/-0.7
\$300,000 to \$499,999	591	+/-198	1.7%	+/-0.5
\$500,000 to \$999,999	499	+/-202	1.4%	+/-0.6
\$1,000,000 or more	79	+/-57	0.2%	+/-0.2
Median (dollars)	48,000	+/-2,743	(X)	(X)
MORTGAGE STATUS				
Owner-occupied units	35,751	+/-1,514	35,751	(X)
Housing units with a mortgage	4,089	+/-521	11.4%	+/-1.3
Housing units without a mortgage	31,662	+/-1,404	88.6%	+/-1.3
SELECTED MONTHLY OWNER COSTS (SMOC)				
Housing units with a mortgage	4,089	+/-521	4,089	(X)
Less than \$500	875	+/-234	21.4%	+/-4.4
\$500 to \$999	2,455	+/-382	60.0%	+/-5.7
\$1,000 to \$1,499	610	+/-151	14.9%	+/-3.8
\$1,500 to \$1,999	93	+/-76	2.3%	+/-1.8
\$2,000 to \$2,499	56	+/-80	1.4%	+/-1.9
\$2,500 to \$2,999	0	+/-189	0.0%	+/-3.5
\$3,000 or more	0	+/-189	0.0%	+/-3.5
Median (dollars)	684	+/-38	(X)	(X)
Housing units without a mortgage	31,662	+/-1,404	31,662	(X)
Less than \$250	22,582	+/-1,271	71.3%	+/-2.2
\$250 to \$399	5,817	+/-572	18.4%	+/-1.7
\$400 to \$599	2,437	+/-412	7.7%	+/-1.3
\$600 to \$799	621	+/-168	2.0%	+/-0.5
\$800 to \$999	146	+/-98	0.5%	+/-0.3
\$1,000 or more	59	+/-51	0.2%	+/-0.2
Median (dollars)	179	+/-5	(X)	(X)
SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI)				
Housing units with a mortgage (excluding units where SMOCAPI cannot be computed)	3,915	+/-504	3,915	(X)
Less than 20.0 percent	2,095	+/-416	53.5%	+/-6.8
20.0 to 24.9 percent	479	+/-175	12.2%	+/-4.4
25.0 to 29.9 percent	217	+/-122	5.5%	+/-3.1
30.0 to 34.9 percent	219	+/-98	5.6%	+/-2.5
35.0 percent or more	905	+/-264	23.1%	+/-6.1

Subject	Navajo Nation Reservation and Off-Reservation Trust Land, AZ--NM--UT			
	Estimate	Margin of Error	Percent	Percent Margin of Error
Not computed	174	+/-100	(X)	(X)
Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed)	29,142	+/-1,330	29,142	(X)
Less than 10.0 percent	16,850	+/-989	57.8%	+/-2.3
10.0 to 14.9 percent	4,382	+/-566	15.0%	+/-1.8
15.0 to 19.9 percent	2,521	+/-447	8.7%	+/-1.4
20.0 to 24.9 percent	1,267	+/-219	4.3%	+/-0.7
25.0 to 29.9 percent	892	+/-316	3.1%	+/-1.1
30.0 to 34.9 percent	678	+/-220	2.3%	+/-0.7
35.0 percent or more	2,552	+/-447	8.8%	+/-1.4
Not computed	2,520	+/-382	(X)	(X)
GROSS RENT				
Occupied units paying rent	8,607	+/-739	8,607	(X)
Less than \$500	4,392	+/-609	51.0%	+/-5.2
\$500 to \$999	3,711	+/-519	43.1%	+/-5.3
\$1,000 to \$1,499	383	+/-166	4.4%	+/-1.9
\$1,500 to \$1,999	121	+/-174	1.4%	+/-2.0
\$2,000 to \$2,499	0	+/-189	0.0%	+/-1.7
\$2,500 to \$2,999	0	+/-189	0.0%	+/-1.7
\$3,000 or more	0	+/-189	0.0%	+/-1.7
Median (dollars)	491	+/-40	(X)	(X)
No rent paid	1,854	+/-325	(X)	(X)
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI)				
Occupied units paying rent (excluding units where GRAPI cannot be computed)	8,120	+/-727	8,120	(X)
Less than 15.0 percent	3,538	+/-550	43.6%	+/-5.3
15.0 to 19.9 percent	1,193	+/-341	14.7%	+/-3.9
20.0 to 24.9 percent	725	+/-226	8.9%	+/-2.8
25.0 to 29.9 percent	471	+/-209	5.8%	+/-2.5
30.0 to 34.9 percent	388	+/-184	4.8%	+/-2.2
35.0 percent or more	1,805	+/-348	22.2%	+/-4.0
Not computed	2,341	+/-388	(X)	(X)

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

Households not paying cash rent are excluded from the calculation of median gross rent.

While the 2015 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates

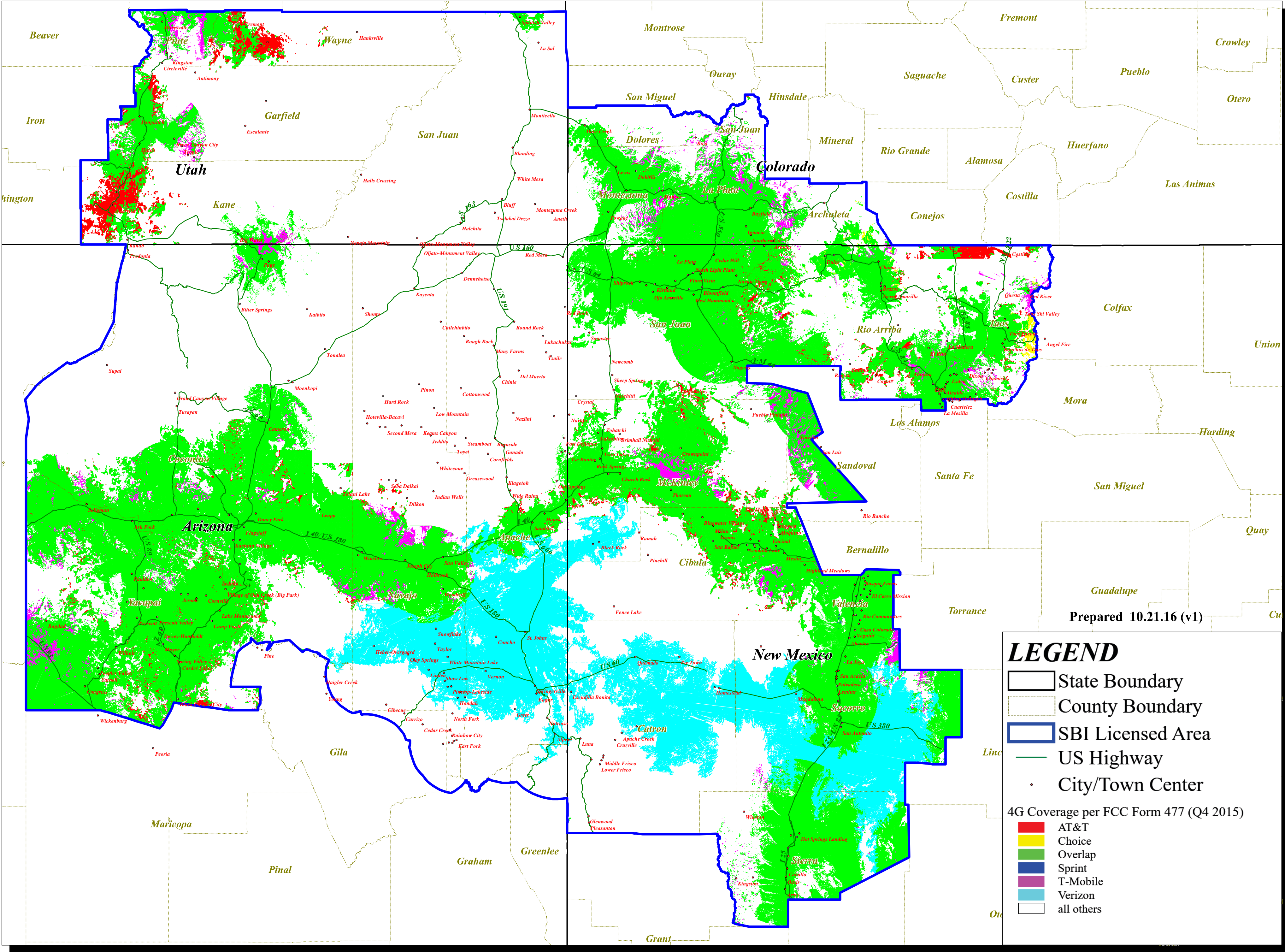
Explanation of Symbols:

1. An '***' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

Exhibit 2

Combined 4G LTE Coverage of Four Largest Carriers on Tribal Lands in SBI Service Area

4G LTE Coverage Areas (per FCC Form 477 Filings Q4 2015)



Prepared 10.21.16 (v1)

LEGEND

- State Boundary
- County Boundary
- SBI Licensed Area
- US Highway
- City/Town Center

4G Coverage per FCC Form 477 (Q4 2015)

- AT&T
- Choice
- Overlap
- Sprint
- T-Mobile
- Verizon
- all others

Exhibit 3

[redacted]

SBI November 3, 2016 Ex Parte Presentation

November 3, 2016

FILED VIA ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W., Room TW-B204
Washington, D.C. 20554

Re: Notice of *Ex Parte* Presentation
WC Docket No. 10-90
WT Docket No. 10-208

Dear Ms. Dortch:

On November 1, 2016, undersigned counsel and Kevin Frawley, on behalf of Smith Bagley, Inc., met with Nicholas Degani in Commissioner Pai's office; Amy Bender in Commissioner O'Rielly's office; Edward Smith, Gigi Sohn, and Tim Campbell in Chairman Wheeler's office, along with John Williams of the Office of General Counsel; and with Jon Wilkins, Jim Schlichting, Mark Montano, Sue McNeil, and Margaret Wiener in the Wireless Telecommunications Bureau. On November 2, 2016, we met with Claude Aiken in Commissioner Clyburn's office and Travis Litman in Commissioner Rosenworcel's office.

We discussed SBI's correspondence of October 26, 2016, a copy of which can be accessed at <https://www.fcc.gov/ecfs/filing/10261682207349>. Specifically, SBI urged the Commission to afford special treatment for Tribal Lands in the Lower 48, similar to that provided in the Commission's recent "Alaska Plan" order that assigned over \$1.5 billion in universal service funding to accelerate and preserve broadband deployment in Alaska over the next ten years.¹

¹ See, *Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, FCC 16-115 (Aug. 31, 2016), at https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-115A1.pdf.

We explained that the needs of many rural Tribal Lands in the Lower 48 are as dire as those in Alaska, citing many of the statistics set forth in our October 26 submission. Carriers such as SBI that have built extensive mobile wireless networks over the past twenty years in some of the highest cost and most difficult demographic areas cannot raise prices or reduce expenses to offset the substantial amount of federal high-cost support being provided, which is critical to maintaining existing networks and upgrading to 4G LTE in the near future.

We proposed a Tribal Lands Plan, modeled on the FCC's recent Alaska Plan, a copy of which was provided to the staff and is enclosed with this letter.

We also committed to provide data that would enable the Commission to determine the cost of a Tribal Lands Plan and identify potentially affected Covered Locations, and will submit that data shortly.

We reiterated to the Commission that in very remote high-cost areas, any bid in a Tribal Mobility Fund auction must necessarily be high, due primarily to the low population density and the extraordinary cost of access to fiber and other backhaul facilities. Prior support auctions have dramatically favored bidders in lower-cost areas where the per-mile or per-household bid amounts are much lower. The Commission simply cannot afford to have an auction that concludes with little or no Tribal support being available to those areas that need it most, similar to the West Virginia problem in Mobility Fund Phase I. SBI believes that a modified Alaska Plan is the best way to prioritize support for Tribal Lands most in need.

Should you have any questions, please contact undersigned counsel directly.

Sincerely,

A handwritten signature in black ink, appearing to read "D. LaFuria".

David A. LaFuria
Counsel for Smith Bagley, Inc.

cc (with enclosures):

Nicholas Degani
Amy Bender
Claude Aiken
Travis Litman
Edward Smith
Gigi Sohn
Tim Campbell
John Williams
Jon Wilkins
Jim Schlichting
Mark Montano
Sue McNeil
Margaret Wiener
Kevin Frawley

§54.____ Tribal Lands Plan for competitive eligible telecommunications carriers serving remote Tribal Lands.

(a) *Election of support.* Subject to the requirements of this section, competitive eligible telecommunications carriers serving Tribal Lands as defined in 47 C.F.R. §54.400(e), shall have a one-time option to elect to participate in the Tribal Lands Plan. Carriers exercising this option with approved performance plans shall have their support frozen for a period of ten years beginning on or after January 1, 2017, at a date set by the Wireless Telecommunications Bureau.

(b) *Carriers eligible for support.* A competitive eligible telecommunications carrier shall be eligible for frozen support pursuant to the Tribal Lands Plan if that carrier serves Tribal Lands having a household telephone penetration rate of less than 90%, as shown in the 2010 U.S. Census, and if that carrier certified that it served Covered Locations in its September 30, 2011 filing of line counts with the Administrator, and submits a performance plan by March 31, 2017.

(c) *Support amounts and support term.* For a period of 10 years beginning on or after January 1, 2017, at a date set by the Wireless Telecommunications Bureau, each Tribal Lands Plan participant shall receive monthly Tribal Lands Plan support in an amount equal to the annualized monthly support amount it received for December 2014. Tribal Lands Plan participants shall no longer be required to file line counts.

(d) *Use of frozen support.* Frozen support allocated through the Tribal Lands Plan may only be used to provide mobile voice and mobile broadband service in those census blocks on covered Tribal Lands within the carrier's ETC service area that did not, as of December 31, 2014, receive 4G LTE service directly from providers that were unsubsidized and covering, in the aggregate, at least 85 percent of the population of the block. Nothing in this section shall be interpreted to limit the use of frozen support to build or upgrade middle-mile infrastructure outside covered Tribal Lands if such middle mile infrastructure is necessary to the provision of mobile voice and mobile broadband service on covered Tribal Lands. Tribal Lands Plan participants may use frozen support to provide mobile voice and mobile broadband service on covered Tribal Lands served by competitive eligible telecommunications carrier partners of ineligible carriers if those areas are served using the competitive eligible telecommunications carrier's infrastructure.

(e) *Performance plans.* In order to receive support pursuant to this section, a competitive eligible telecommunications carrier must be subject to a performance plan approved by the Wireless Telecommunications Bureau. The performance plan must indicate specific deployment obligations and performance requirements sufficient to demonstrate that support is being used in the public interest and in accordance with paragraph (d) of this section and the requirements adopted by the Commission for the Tribal Lands Plan. For each level of wireless service offered (2G/Voice, 3G, and 4G LTE) and each type of middle mile used in connection with that level of service, the performance plan must specify minimum speeds that will be offered to a specified population by the end of the fifth year of support and by the end of the tenth year of support. Tribal Lands Plan participants shall, no later than the end of the fourth year of

the ten-year term, review and modify their end-of-term commitments in light of any new developments, including newly available infrastructure. The Wireless Telecommunications Bureau may require the filing of revised commitments at other times if justified by developments that occur after the approval of the initial performance commitments. If the specific performance obligations are not achieved in the time period identified in the approved performance plans the carrier shall be subject to §54.320(c) and (d) of this chapter.

SBI November 7, 2016 Ex Parte Presentation

8300 Greensboro Dr.
Suite 1200
McLean, VA 22102

(703) 584-8666
WWW.FCCLAW.COM



November 7, 2016

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W., Room TW-B204
Washington, DC 20554
Attn: Wireless Telecommunications Bureau

Re: WC Docket No. 10-90
WT Docket No. 10-208

Dear Ms. Dortch:

On behalf of Smith Bagley, Inc., we write to provide supplemental information for the record in the above-referenced proceedings.

In correspondence of October 26, 2016, SBI suggested special treatment in the upcoming Mobility Fund II item for Tribal lands, similar to that afforded in the recent "Alaska Plan" adopted earlier this year.¹ SBI noted that the Commission may choose to focus on carriers serving all Covered Locations, or it may choose to target only Tribal lands with below average telephone penetration rates.

Alternatively, the Commission could target areas with mobile broadband service levels that are not comparable to urban areas. Enclosed with this letter are excerpts from the most recently available data from the National Broadband Map, providing an analysis of broadband characteristics on Tribal lands.² For example, 47.8% of the Navajo Nation's population has access to a wireless broadband connection at greater than 10 Mbps download, compared to 98.2% for the United States. In response, the Commission may conclude that it should target Mobility Fund II support to areas having access to mobile broadband speeds not reasonably comparable to those in urban areas, to ensure improvements are made in the near term, and that such areas are not left behind in an auction.

Tribal lands with lower service levels often suffer from higher construction and backhaul costs, lower population density, and poor demographics. It is an unacceptable result for any Tribal Mobility Fund Phase II process to conclude with such areas receiving no support, or

¹See, <https://www.fcc.gov/ecfs/filing/10261682207349/document/1026168220734984c5> ("SBI October 26 letter").

² See, National Broadband Map, Native Nations, available at <http://www.broadbandmap.gov/native-nations/> (last visited Nov. 7, 2016).

having legacy support being discontinued. SBI has provided ample record evidence demonstrating the demographic challenges on Tribal lands it serves, as well as the extraordinary costs required to bring such areas up to modern standards.³ Put simply, these remote areas would not have been built to today's level without support, nor will they be maintained and improved without a support mechanism that is predictable and sufficient to accomplish the task.

We trust that you will find this information to be useful. Should you have any questions, please contact undersigned counsel directly.

Sincerely,



David A. LaFuria
Counsel for Smith Bagley, Inc.

cc:	(with enclosures)	Matthew DelNero
	Hon. Thomas Wheeler	John Williams
	Hon. Mignon Clyburn	Trent Harkrader
	Hon. Jessica Rosenworcel	James Schlichting
	Hon. Ajit Pai	Margaret Wiener
	Hon. Michael O'Rielly	Sue McNeil
	Philip Verveer	Charles Eberle
	Gigi Sohn	Chris Helzer
	Edward Smith	Kelly Quinn
	Claude Aiken	Eliot Maenner
	Travis Litman	Paroma Sanyal
	Erin McGrath	Mark Montano
	Nicholas Degani	
	Jon Wilkins	

³ See, SBI October 26 letter, *supra*.

Analyze » Summarize

Native Nations » ALL Native Nations

Below is a summary of the broadband characteristics for the area listed above. The broadband data below is as of June 30, 2014 and represents data collected by SBDD grantees. Click on the section headings to see more information.

[Print this page](#) • [Export Data](#)

Wireline

[Download](#) [Upload](#)

Speed	Percent Population	Nationwide
Dn>3Mbps Up>768kbps	62.1%	94.8%
Download > 3Mbps	65.7%	95.4%
Download > 6Mbps	57.1%	94.2%
Download > 10Mbps	52.4%	92.9%
Download > 25Mbps	37.5%	85.3%
Download > 50Mbps	29.4%	83.2%
Download > 100Mbps	21.9%	64.8%
Download > 1Gbps	7.0%	7.9%
Source		API Call

Wireless

[Download](#) [Upload](#)

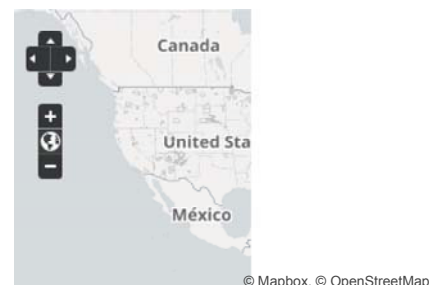
Speed	Percent Population	Nationwide
Dn>3Mbps Up>768kbps	86.4%	99.3%
Download > 3Mbps	86.4%	99.3%
Download > 6Mbps	79.5%	98.5%
Download > 10Mbps	77.8%	98.2%
Download > 25Mbps	14.3%	14.0%
Download > 50Mbps	11.7%	6.6%
Download > 100Mbps	11.6%	4.3%
Download > 1Gbps	0.0%	0.1%
Source		API Call

Technology	Percent Population	Nationwide
DSL	66.7%	90.0%
Fiber	12.8%	25.4%
Cable	31.5%	88.8%
Wireless	89.8%	99.4%
Other	0.0%	0.0%

Share »

Share this page with my community

 Print



Demographics

Total area (sq miles)	111,169
Population	974,892
Housing Units	444,216

Age	Area (%)	Nationwide
under 5	7.47%	5.73%
5 - 19	26.94%	20.76%
20 - 34	21.62%	19.57%
35 - 59	26.41%	32.66%
60+	17.56%	21.28%

Race	Area (%)	Nationwide
White	37.32%	69.32%
Black	1.29%	11.19%
Hispanic	9.14%	14.91%
Asian/Pacific Islander	0.74%	4.08%
Native American	51.51%	0.48%

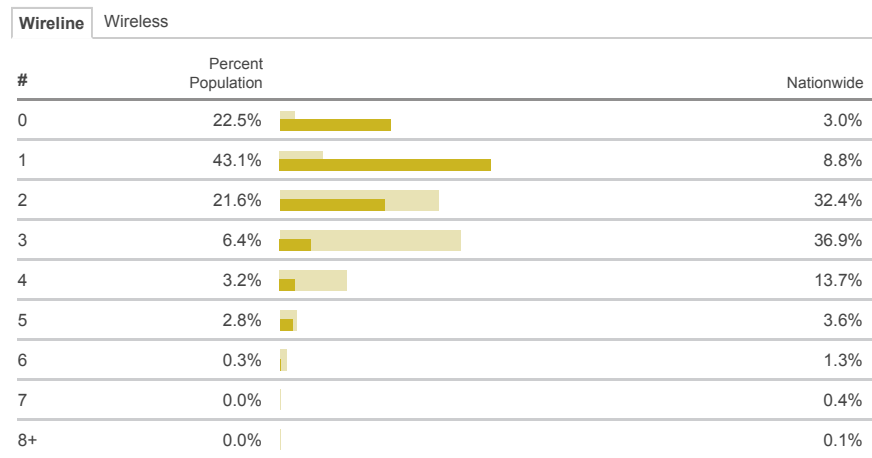
Income	Area (%)	Nationwide
Median income	\$41,570	\$58,811
Poverty rate	21.21%	15.81%
Below \$25k	34.64%	24.04%
\$25k-\$50k	27.17%	24.58%
\$50k-\$100k	27.01%	30.66%
\$100k-\$200k	9.65%	16.50%
\$200k or more	1.52%	4.21%

Education	Area (%)	Nationwide
High School graduate	72.11%	79.93%
Bachelor's degree or higher	12.76%	24.84%

Source API Call

Source API Call

Number of Internet Providers



Source API Call

Map »

Map my community

Rank »

Rank my community

Provider »

View statistics about providers

Broadband Classroom »

Learn more about broadband

Engage »

Build a better map for my community

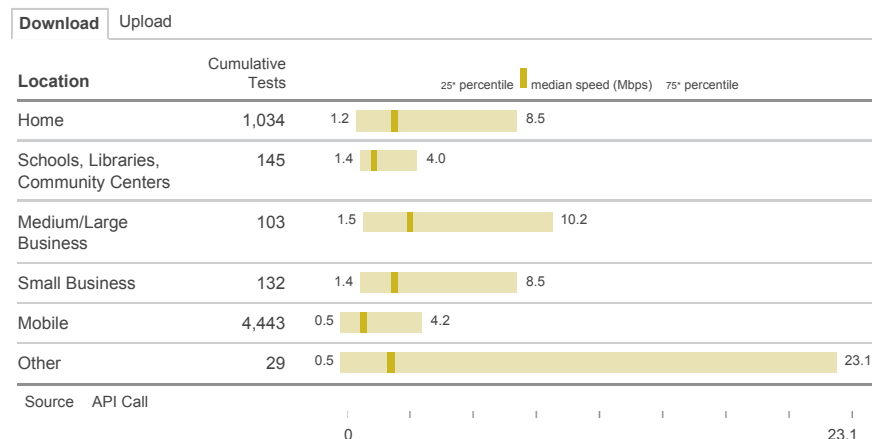
Blog »

Your Feedback is important!
posted by Anne Neville on February 16, 2011

Updates »

Sign up and receive updates about the National Broadband Map

Broadband Speed Test (Mbps)



Community Anchor Institutions

Download Upload

Institution	Total Number of Records	Subscribe to Broadband			
		Yes	No	Not Provided	Speeds Reported
Schools K through 12	670	445	2	223	406
University, College, other post-secondary	68	31	0	37	29
Libraries	168	106	1	61	97
Medical / Healthcare	241	80	1	160	60
Public Safety	575	84	80	411	58
Community Centers - Government support	350	238	3	109	192
Community Centers - Non-Government support	98	41	0	57	36

Source API Call

Download Community Anchor Institutions data on the download page

results: 6.51 seconds

Analyze » Summarize

Native Nations » Osage

Below is a summary of the broadband characteristics for the area listed above. The broadband data below is as of June 30, 2014 and represents data collected by SBDD grantees. Click on the section headings to see more information.

Print this page • Export Data

Wireline

<div>DownloadUpload</div>			
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	65.2%		94.8%
Download > 3Mbps	70.1%		95.4%
Download > 6Mbps	65.2%		94.2%
Download > 10Mbps	63.4%		92.9%
Download > 25Mbps	24.9%		85.3%
Download > 50Mbps	23.1%		83.2%
Download > 100Mbps	18.0%		64.8%
Download > 1Gbps	0.0%		7.9%
		Source	API Call

Wireless

<div>DownloadUpload</div>			
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	99.9%		99.3%
Download > 3Mbps	99.9%		99.3%
Download > 6Mbps	96.0%		98.5%
Download > 10Mbps	95.6%		98.2%
Download > 25Mbps	0.0%		14.0%
Download > 50Mbps	0.0%		6.6%
Download > 100Mbps	0.0%		4.3%
Download > 1Gbps	0.0%		0.1%
		Source	API Call

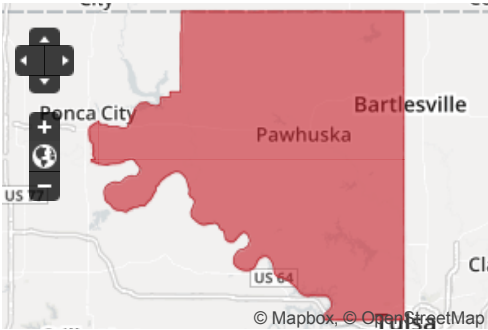
Technology	Percent Population		Nationwide
DSL	66.9%		90.0%
Fiber	1.8%		25.4%
Cable	52.7%		88.8%
Wireless	100.0%		99.4%
Other	0.0%		0.0%
		Source	API Call

Number of Internet Providers

Share »

Share this page with my community

Print



Demographics

Total area (sq miles)	2,225
Population	45,024
Housing Units	21,349

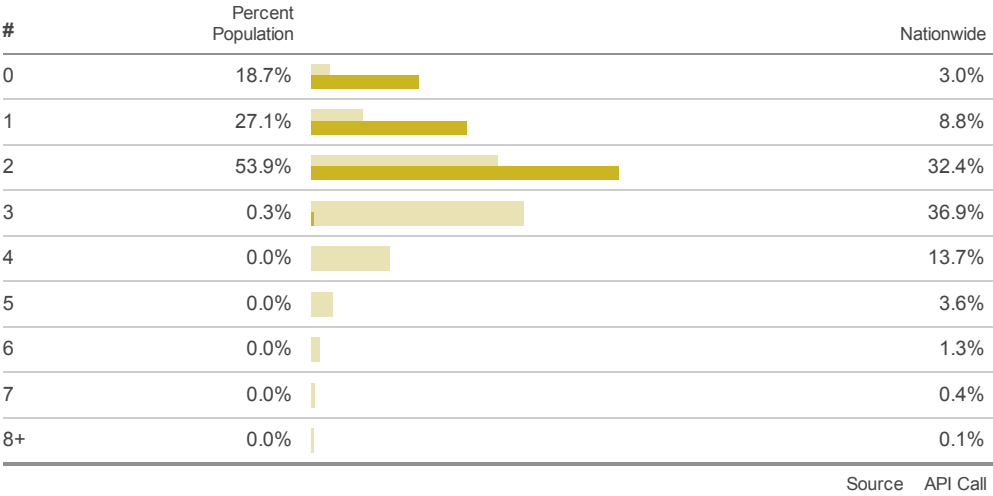
Age	Area (%)		Nationwide
under 5	3.72%		5.73%
5 - 19	22.32%		20.76%
20 - 34	18.97%		19.57%
35 - 59	28.53%		32.66%
60+	26.46%		21.28%

Race	Area (%)		Nationwide
White	72.20%		69.32%
Black	13.78%		11.19%
Hispanic	1.64%		14.91%
Asian/Pacific Islander	0.05%		4.08%
Native American	12.33%		0.48%

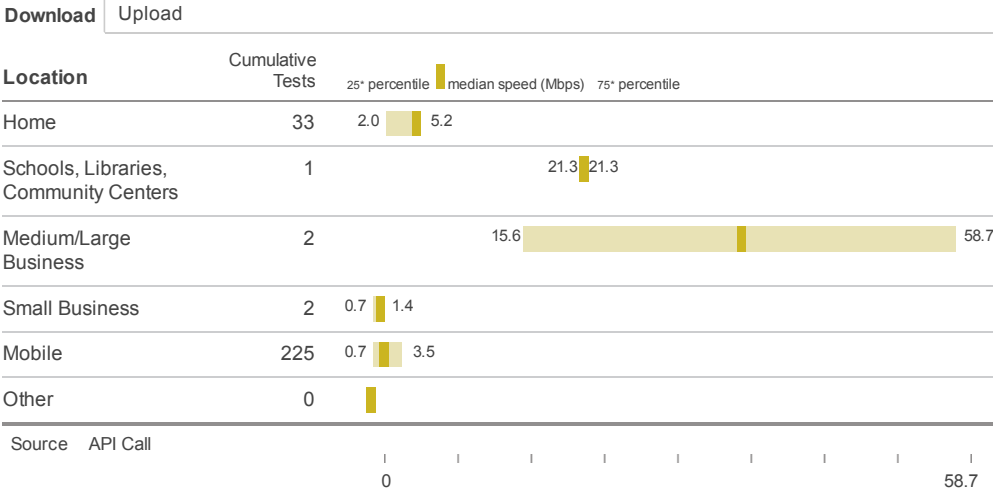
Income	Area (%)		Nationwide
Median income	\$43,835		\$58,811
Poverty rate	16.50%		15.81%
Below \$25k	28.45%		24.04%
\$25k-\$50k	29.57%		24.58%
\$50k-\$100k	28.75%		30.66%
\$100k-\$200k	12.04%		16.50%
\$200k or more	1.19%		4.21%

Education	Area (%)		Nationwide
High School graduate	81.83%		79.93%
Bachelor's degree or higher	15.35%		24.84%

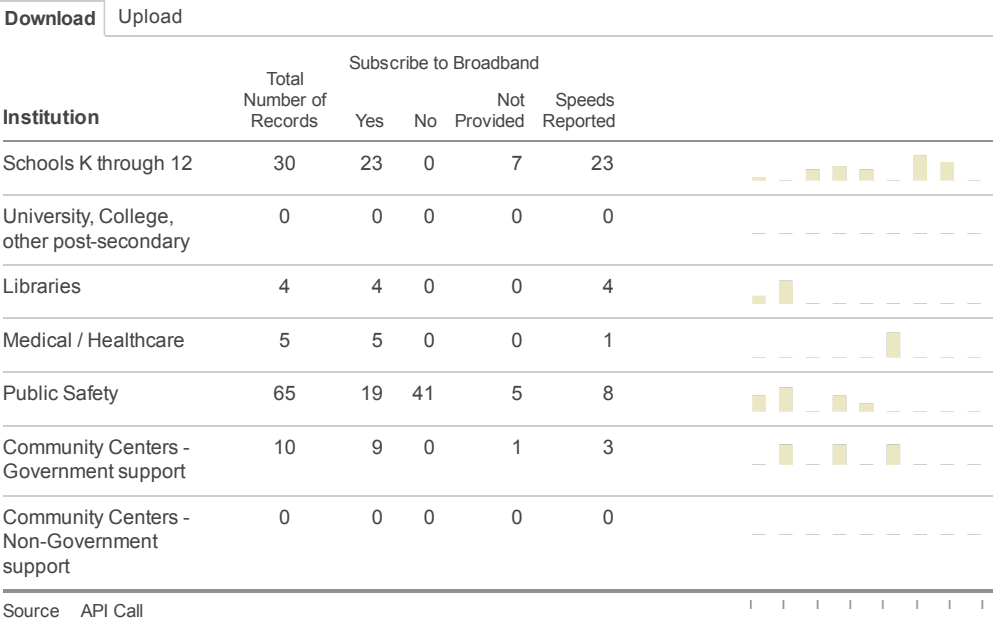
Source API Call



Broadband Speed Test (Mbps)



Community Anchor Institutions



Download Community Anchor Institutions data on the download page

Map »

Map my community

Rank »

Rank my community

Provider »

View statistics about providers

Broadband Classroom »

Learn more about broadband

Engage »

Build a better map for my community

Blog »

Your Feedback is important!
posted by Anne Neville on February 16, 2011

Updates »

Sign up and receive updates about the National Broadband Map

Analyze » Summarize

Native Nations » Fort Peck

Below is a summary of the broadband characteristics for the area listed above. The broadband data below is as of June 30, 2014 and represents data collected by SBDD grantees. Click on the section headings to see more information.

Print this page • Export Data

Wireline

Download		Upload	
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	2.0%	<div><div></div></div>	94.8%
Download > 3Mbps	73.7%	<div><div></div></div>	95.4%
Download > 6Mbps	2.0%	<div><div></div></div>	94.2%
Download > 10Mbps	1.6%	<div><div></div></div>	92.9%
Download > 25Mbps	1.6%	<div><div></div></div>	85.3%
Download > 50Mbps	0.0%	<div><div></div></div>	83.2%
Download > 100Mbps	0.0%	<div><div></div></div>	64.8%
Download > 1Gbps	0.0%	<div><div></div></div>	7.9%
		Source	API Call

Wireless

Download		Upload	
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	85.1%	<div><div></div></div>	99.3%
Download > 3Mbps	85.1%	<div><div></div></div>	99.3%
Download > 6Mbps	27.8%	<div><div></div></div>	98.5%
Download > 10Mbps	27.8%	<div><div></div></div>	98.2%
Download > 25Mbps	0.0%	<div><div></div></div>	14.0%
Download > 50Mbps	0.0%	<div><div></div></div>	6.6%
Download > 100Mbps	0.0%	<div><div></div></div>	4.3%
Download > 1Gbps	0.0%	<div><div></div></div>	0.1%
		Source	API Call

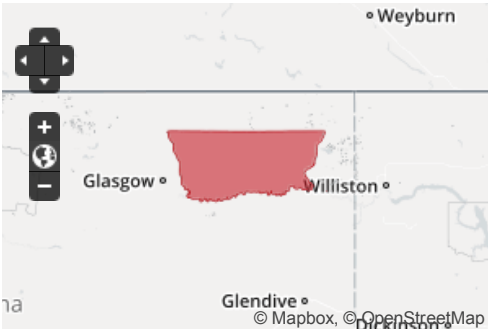
Technology	Percent Population	Nationwide			
DSL	85.7%	90.0%			
Fiber	1.6%	25.4%			
Cable	0.0%	88.8%			
Wireless	95.4%	99.4%			
Other	0.0%	0.0%			
		Source	API Call		

Number of Internet Providers

Share »

Share this page with my community

Print



Demographics

Total area (sq miles)	3,325
Population	8,791
Housing Units	3,590

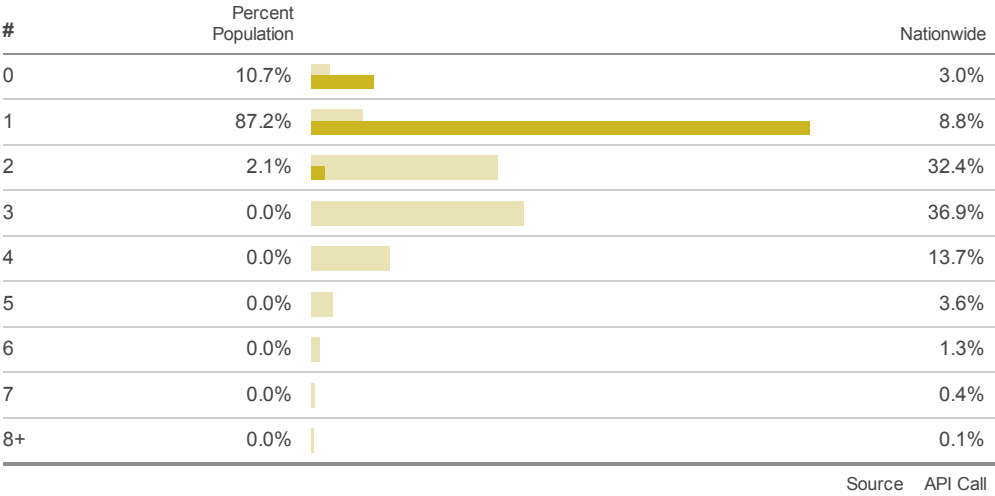
Age	Area (%)	Nationwide	
under 5	10.73%	5.73%	
5 - 19	34.55%	20.76%	
20 - 34	23.04%	19.57%	
35 - 59	22.54%	32.66%	
60+	9.14%	21.28%	

Race	Area (%)	Nationwide	
White	18.10%	69.32%	
Black	0.00%	11.19%	
Hispanic	1.07%	14.91%	
Asian/Pacific Islander	0.15%	4.08%	
Native American	80.68%	0.48%	

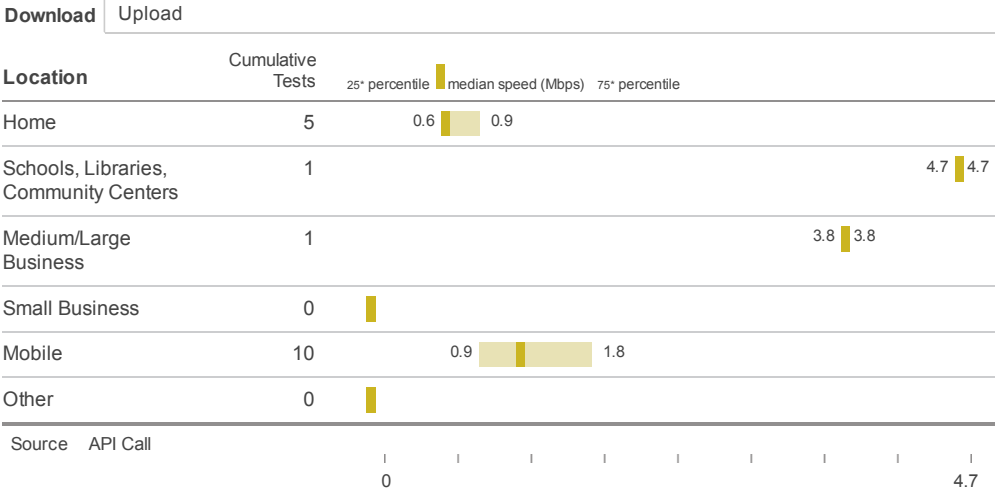
Income	Area (%)	Nationwide	
Median income	\$39,026	\$58,811	
Poverty rate	25.38%	15.81%	
Below \$25k	32.96%	24.04%	
\$25k-\$50k	31.00%	24.58%	
\$50k-\$100k	28.61%	30.66%	
\$100k-\$200k	6.40%	16.50%	
\$200k or more	1.03%	4.21%	

Education	Area (%)	Nationwide	
High School graduate	77.72%	79.93%	
Bachelor's degree or higher	13.58%	24.84%	

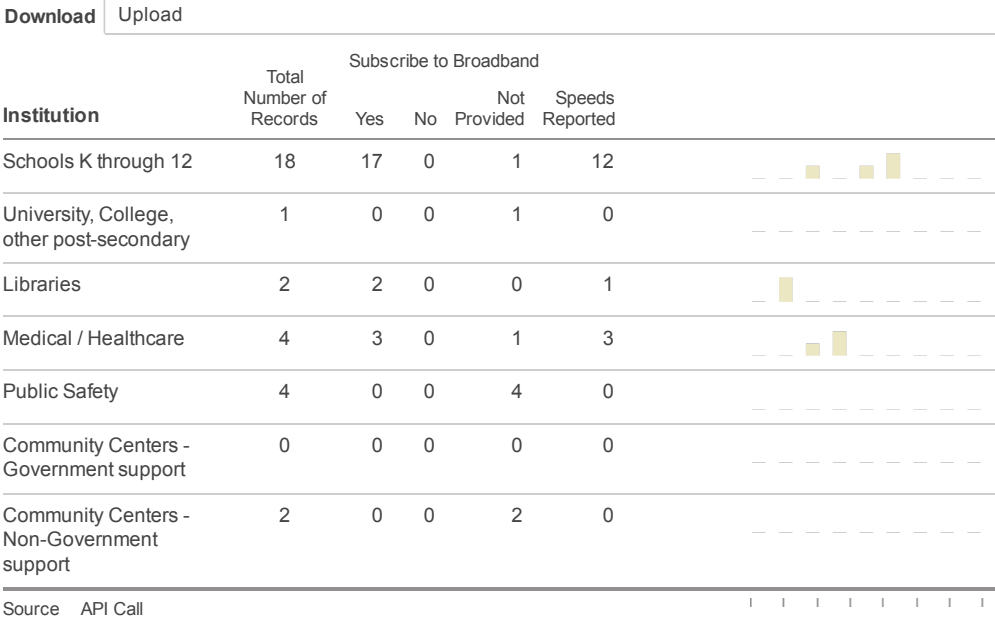
Source API Call



Broadband Speed Test (Mbps)



Community Anchor Institutions



Download Community Anchor Institutions data on the download page

Map »

Map my community

Rank »

Rank my community

Provider »

View statistics about providers

Broadband Classroom »

Learn more about broadband

Engage »

Build a better map for my community

Blog »

Your Feedback is important!
posted by Anne Neville on February 16, 2011

Updates »

Sign up and receive updates about the National Broadband Map

Analyze » Summarize

Native Nations » Crow

Below is a summary of the broadband characteristics for the area listed above. The broadband data below is as of June 30, 2014 and represents data collected by SBDD grantees. Click on the section headings to see more information.

Print this page

Export Data

Wireline

Download

Upload

Speed	Percent Population	Nationwide
Dn>3Mbps Up>768kbps	0.8% <div><div></div></div>	94.8%
Download > 3Mbps	0.8% <div><div></div></div>	95.4%
Download > 6Mbps	0.6% <div><div></div></div>	94.2%
Download > 10Mbps	0.6% <div><div></div></div>	92.9%
Download > 25Mbps	0.6% <div><div></div></div>	85.3%
Download > 50Mbps	0.6% <div><div></div></div>	83.2%
Download > 100Mbps	0.0% <div><div></div></div>	64.8%
Download > 1Gbps	0.0% <div><div></div></div>	7.9%

Source

API Call

Wireless

Download

Upload

Speed	Percent Population	Nationwide
Dn>3Mbps Up>768kbps	87.3% <div><div></div></div>	99.3%
Download > 3Mbps	87.3% <div><div></div></div>	99.3%
Download > 6Mbps	76.6% <div><div></div></div>	98.5%
Download > 10Mbps	76.6% <div><div></div></div>	98.2%
Download > 25Mbps	0.0% <div><div></div></div>	14.0%
Download > 50Mbps	0.0% <div><div></div></div>	6.6%
Download > 100Mbps	0.0% <div><div></div></div>	4.3%
Download > 1Gbps	0.0% <div><div></div></div>	0.1%

Source

API Call

Technology	Percent Population	Nationwide
DSL	41.1% <div><div></div></div>	90.0%
Fiber	0.0% <div><div></div></div>	25.4%
Cable	0.6% <div><div></div></div>	88.8%
Wireless	90.7% <div><div></div></div>	99.4%
Other	0.0% <div><div></div></div>	0.0%

Source

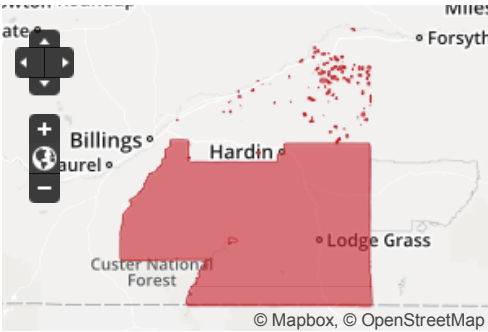
API Call

Number of Internet Providers

Share »

Share this page with my community

Print



Demographics

Total area (sq miles)	3,569
Population	6,391
Housing Units	2,770

Age	Area (%)	Nationwide
under 5	10.54% <div><div></div></div>	5.73%
5 - 19	33.95% <div><div></div></div>	20.76%
20 - 34	23.30% <div><div></div></div>	19.57%
35 - 59	22.32% <div><div></div></div>	32.66%
60+	9.89% <div><div></div></div>	21.28%

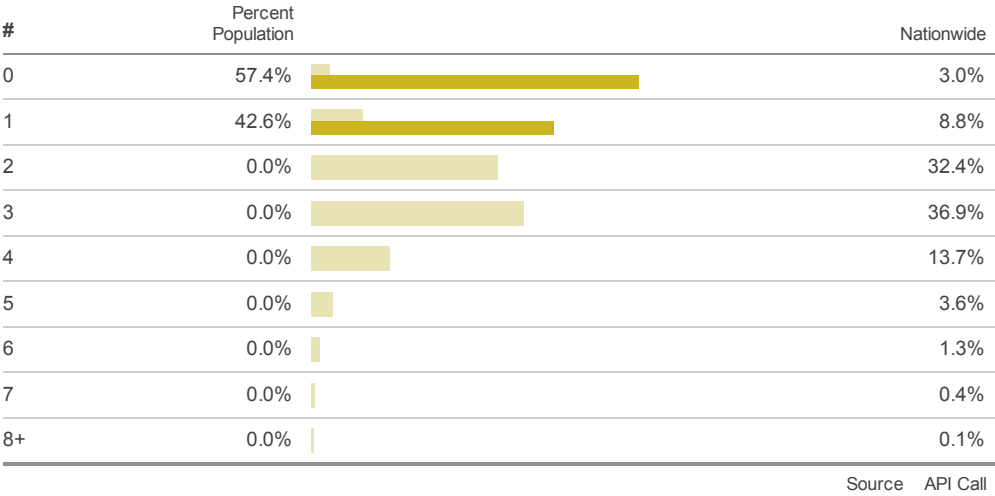
Race	Area (%)	Nationwide
White	13.11% <div><div></div></div>	69.32%
Black	0.00% <div><div></div></div>	11.19%
Hispanic	1.39% <div><div></div></div>	14.91%
Asian/Pacific Islander	0.00% <div><div></div></div>	4.08%
Native American	85.49% <div><div></div></div>	0.48%

Income	Area (%)	Nationwide
Median income	\$43,834	\$58,811
Poverty rate	25.03% <div><div></div></div>	15.81%
Below \$25k	30.04% <div><div></div></div>	24.04%
\$25k-\$50k	32.21% <div><div></div></div>	24.58%
\$50k-\$100k	28.83% <div><div></div></div>	30.66%
\$100k-\$200k	8.57% <div><div></div></div>	16.50%
\$200k or more	0.35% <div><div></div></div>	4.21%

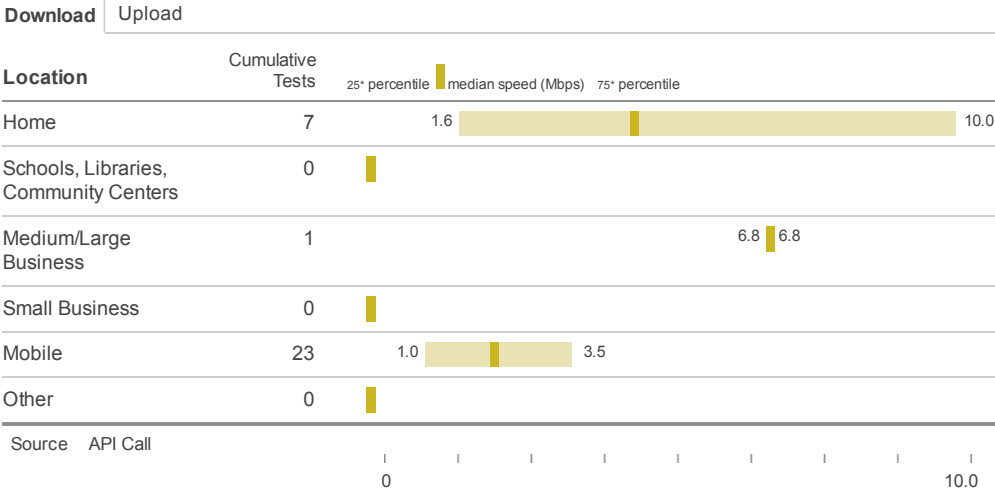
Education	Area (%)	Nationwide
High School graduate	76.97% <div><div></div></div>	79.93%
Bachelor's degree or higher	12.18% <div><div></div></div>	24.84%

Source

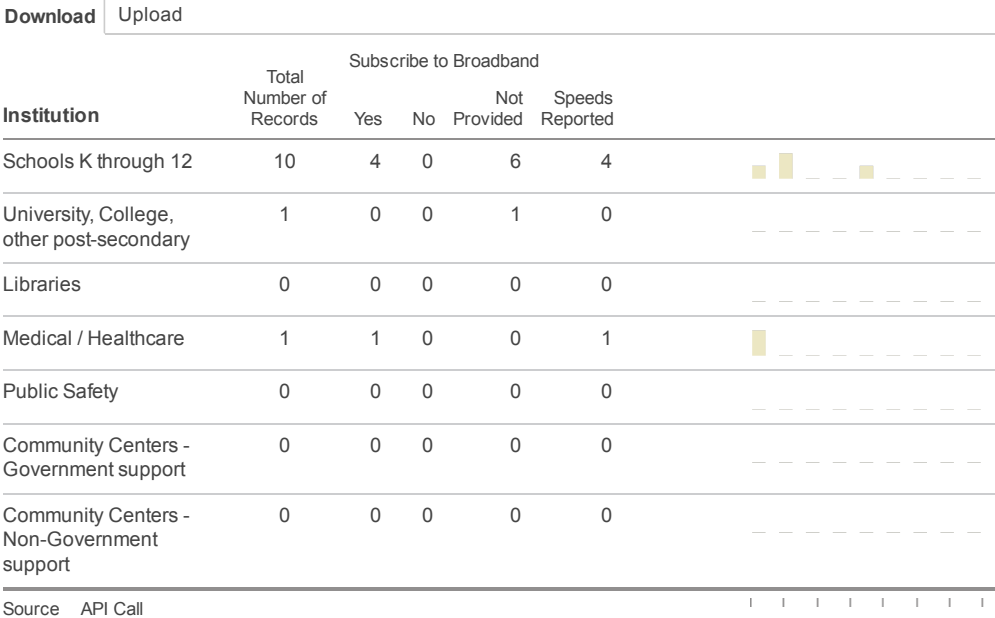
API Call



Broadband Speed Test (Mbps)



Community Anchor Institutions



Download Community Anchor Institutions data on the download page

Map »

Map my community

Rank »

Rank my community

Provider »

View statistics about providers

Broadband Classroom »

Learn more about broadband

Engage »

Build a better map for my community

Blog »

Your Feedback is important!
posted by Anne Neville on February 16, 2011

Updates »

Sign up and receive updates about the National Broadband Map

Analyze » Summarize

Native Nations » Zuni

Below is a summary of the broadband characteristics for the area listed above. The broadband data below is as of June 30, 2014 and represents data collected by SBDD grantees. Click on the section headings to see more information.

Print this page
•
Export Data

Wireline

Download Upload			
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	83.5%	<div></div>	94.8%
Download > 3Mbps	83.5%	<div></div>	95.4%
Download > 6Mbps	83.5%	<div></div>	94.2%
Download > 10Mbps	81.4%	<div></div>	92.9%
Download > 25Mbps	0.0%	<div></div>	85.3%
Download > 50Mbps	0.0%	<div></div>	83.2%
Download > 100Mbps	0.0%	<div></div>	64.8%
Download > 1Gbps	0.0%	<div></div>	7.9%
		Source	API Call

Wireless

Download Upload			
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	99.4%	<div></div>	99.3%
Download > 3Mbps	99.4%	<div></div>	99.3%
Download > 6Mbps	99.3%	<div></div>	98.5%
Download > 10Mbps	99.3%	<div></div>	98.2%
Download > 25Mbps	0.0%	<div></div>	14.0%
Download > 50Mbps	0.0%	<div></div>	6.6%
Download > 100Mbps	0.0%	<div></div>	4.3%
Download > 1Gbps	0.0%	<div></div>	0.1%
		Source	API Call

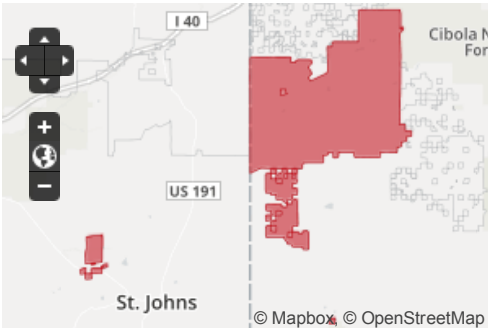
Technology	Percent Population		Nationwide
DSL	86.1%	<div></div>	90.0%
Fiber	0.0%	<div></div>	25.4%
Cable	0.0%	<div></div>	88.8%
Wireless	99.4%	<div></div>	99.4%
Other	0.0%	<div></div>	0.0%
		Source	API Call

Number of Internet Providers

Share »

Share this page with my community


Print



Demographics

Total area (sq miles)	709
Population	8,245
Housing Units	2,326

Age	Area (%)		Nationwide
under 5	7.91%	<div></div>	5.73%
5 - 19	25.58%	<div></div>	20.76%
20 - 34	23.39%	<div></div>	19.57%
35 - 59	31.33%	<div></div>	32.66%
60+	11.80%	<div></div>	21.28%

Race	Area (%)		Nationwide
White	1.50%	<div></div>	69.32%
Black	0.00%	<div></div>	11.19%
Hispanic	2.25%	<div></div>	14.91%
Asian/Pacific Islander	0.23%	<div></div>	4.08%
Native American	96.02%	<div></div>	0.48%

Income	Area (%)		Nationwide
Median income	\$33,508		\$58,811
Poverty rate	32.54%	<div></div>	15.81%
Below \$25k	38.11%	<div></div>	24.04%
\$25k-\$50k	32.76%	<div></div>	24.58%
\$50k-\$100k	22.29%	<div></div>	30.66%
\$100k-\$200k	6.08%	<div></div>	16.50%
\$200k or more	0.75%	<div></div>	4.21%

Education	Area (%)		Nationwide
High School graduate	63.40%	<div></div>	79.93%
Bachelor's degree or higher	4.85%	<div></div>	24.84%

Source
API Call

#	Percent Population		Nationwide
0	13.9%	<div><div></div></div>	3.0%
1	86.1%	<div><div></div></div>	8.8%
2	0.0%	<div><div></div></div>	32.4%
3	0.0%	<div><div></div></div>	36.9%
4	0.0%	<div><div></div></div>	13.7%
5	0.0%	<div><div></div></div>	3.6%
6	0.0%	<div><div></div></div>	1.3%
7	0.0%	<div><div></div></div>	0.4%
8+	0.0%	<div><div></div></div>	0.1%

Source API Call

Broadband Speed Test (Mbps)

Download Upload

Location	Cumulative Tests	25 th percentile	median speed (Mbps)	75 th percentile
Home	1			1.0
Schools, Libraries, Community Centers	0			
Medium/Large Business	1			1.0
Small Business	0			
Mobile	11	0.2		0.5
Other	0			

Source API Call

0 1.0

Community Anchor Institutions

Download Upload

Institution	Total Number of Records	Subscribe to Broadband				Speeds Reported
		Yes	No	Not Provided		
Schools K through 12	6	3	0	3		
University, College, other post-secondary	0	0	0	0		
Libraries	1	1	0	0		
Medical / Healthcare	2	0	0	2		
Public Safety	4	0	0	4		
Community Centers - Government support	1	0	0	1		
Community Centers - Non-Government support	0	0	0	0		

Source API Call

| | | | | | | |

Download Community Anchor Institutions data on the download page

Map »

Map my community

Rank »

Rank my community

Provider »

View statistics about providers

Broadband Classroom »

Learn more about broadband

Engage »

Build a better map for my community

Blog »

Your Feedback is important!
posted by Anne Neville on February 16, 2011

Updates »

Sign up and receive updates about the National Broadband Map

Analyze » Summarize

Native Nations » Navajo Nation

Below is a summary of the broadband characteristics for the area listed above. The broadband data below is as of June 30, 2014 and represents data collected by SBDD grantees. Click on the section headings to see more information.

Print this page • Export Data

Wireline

Download Upload			
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	26.1%		94.8%
Download > 3Mbps	27.2%		95.4%
Download > 6Mbps	19.4%		94.2%
Download > 10Mbps	18.6%		92.9%
Download > 25Mbps	3.8%		85.3%
Download > 50Mbps	1.1%		83.2%
Download > 100Mbps	1.1%		64.8%
Download > 1Gbps	0.0%		7.9%
		Source	API Call

Wireless

Download Upload			
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	55.8%		99.3%
Download > 3Mbps	55.8%		99.3%
Download > 6Mbps	48.0%		98.5%
Download > 10Mbps	47.8%		98.2%
Download > 25Mbps	0.0%		14.0%
Download > 50Mbps	0.0%		6.6%
Download > 100Mbps	0.0%		4.3%
Download > 1Gbps	0.0%		0.1%
		Source	API Call

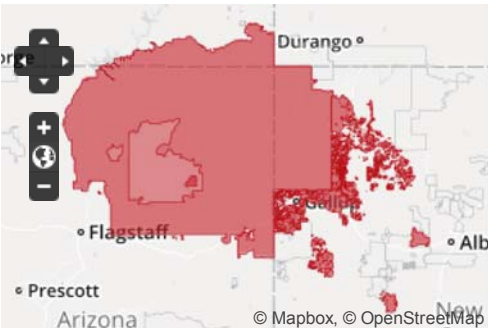
Technology	Percent Population		Nationwide
DSL	59.2%		90.0%
Fiber	0.2%		25.4%
Cable	0.2%		88.8%
Wireless	62.4%		99.4%
Other	0.0%		0.0%
		Source	API Call

Number of Internet Providers

Share »

Share this page with my community

Print



Demographics

Total area (sq miles)	23,294
Population	161,251
Housing Units	71,445

Age	Area (%)		Nationwide
under 5	8.48%		5.73%
5 - 19	31.11%		20.76%
20 - 34	24.89%		19.57%
35 - 59	24.41%		32.66%
60+	11.11%		21.28%

Race	Area (%)		Nationwide
White	1.47%		69.32%
Black	0.02%		11.19%
Hispanic	1.50%		14.91%
Asian/Pacific Islander	0.08%		4.08%
Native American	96.93%		0.48%

Income	Area (%)		Nationwide
Median income	\$28,039		\$58,811
Poverty rate	29.38%		15.81%
Below \$25k	49.29%		24.04%
\$25k-\$50k	24.79%		24.58%
\$50k-\$100k	20.43%		30.66%
\$100k-\$200k	5.07%		16.50%
\$200k or more	0.42%		4.21%

Education	Area (%)		Nationwide
High School graduate	56.40%		79.93%
Bachelor's degree or higher	6.67%		24.84%

Source API Call

#	Percent Population	Nationwide
0	38.8%	3.0%
1	58.6%	8.8%
2	2.6%	32.4%
3	0.0%	36.9%
4	0.0%	13.7%
5	0.0%	3.6%
6	0.0%	1.3%
7	0.0%	0.4%
8+	0.0%	0.1%

Download		Upload	
Location	Cumulative Tests	25 th percentile	median speed (Mbps)
Home	40	0.8	3.1
Schools, Libraries, Community Centers	1		89.3
Medium/Large Business	5	1.2	2.9
Small Business	0		
Mobile	237	0.1	1.5
Other	0		

Source
API Call

Download		Upload			
Institution	Total Number of Records	Subscribe to Broadband			Speeds Reported
		Yes	No	Not Provided	
Schools K through 12	89	38	0	51	33
University, College, other post-secondary	18	5	0	13	5
Libraries	10	4	0	6	4
Medical / Healthcare	42	9	0	33	9
Public Safety	37	1	0	36	1
Community Centers - Government support	76	50	1	25	30
Community Centers - Non-Government support	3	3	0	0	3

[Rank](#) · [Summarize](#) · [Provider](#) · [Engage](#) · [Blog](#) · [Download](#) · [FAQ](#)

Sign up and receive updates about the National Broadband Map

Analyze » Summarize

Native Nations » Hopi

Below is a summary of the broadband characteristics for the area listed above. The broadband data below is as of June 30, 2014 and represents data collected by SBDD grantees. Click on the section headings to see more information.

Print this page • Export Data

Wireline

<div>DownloadUpload</div>			
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	0.0%		94.8%
Download > 3Mbps	0.0%		95.4%
Download > 6Mbps	0.0%		94.2%
Download > 10Mbps	0.0%		92.9%
Download > 25Mbps	0.0%		85.3%
Download > 50Mbps	0.0%		83.2%
Download > 100Mbps	0.0%		64.8%
Download > 1Gbps	0.0%		7.9%
		Source	API Call

Wireless

<div>DownloadUpload</div>			
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	15.6%		99.3%
Download > 3Mbps	15.6%		99.3%
Download > 6Mbps	15.6%		98.5%
Download > 10Mbps	15.6%		98.2%
Download > 25Mbps	0.0%		14.0%
Download > 50Mbps	0.0%		6.6%
Download > 100Mbps	0.0%		4.3%
Download > 1Gbps	0.0%		0.1%
		Source	API Call

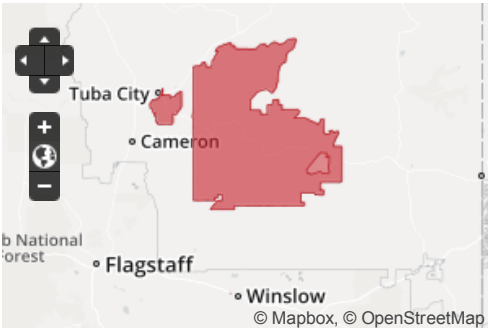
Technology	Percent Population		Nationwide
DSL	74.7%		90.0%
Fiber	0.0%		25.4%
Cable	0.0%		88.8%
Wireless	16.0%		99.4%
Other	0.0%		0.0%
		Source	API Call

Number of Internet Providers

Share »

Share this page with my community

Print



Demographics

Total area (sq miles)	2,463
Population	6,593
Housing Units	2,798

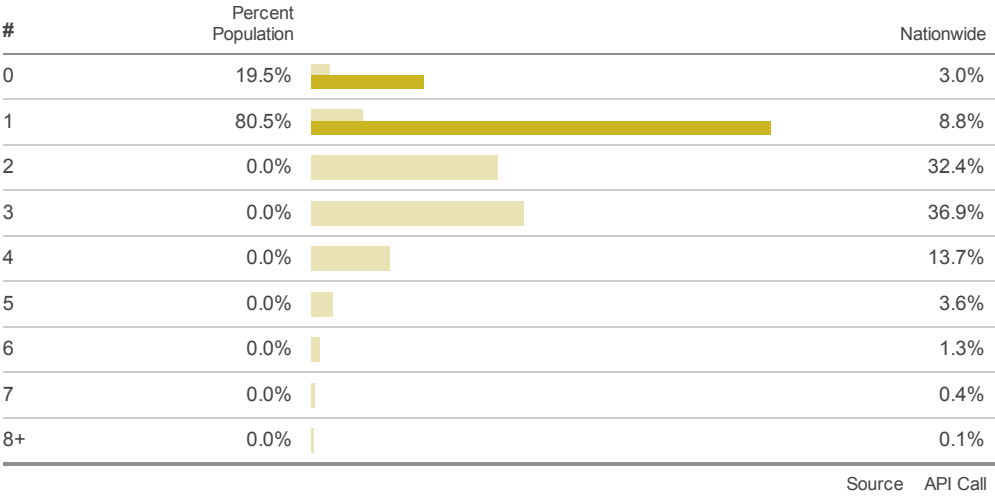
Age	Area (%)		Nationwide
under 5	8.25%		5.73%
5 - 19	28.79%		20.76%
20 - 34	22.60%		19.57%
35 - 59	25.53%		32.66%
60+	14.84%		21.28%

Race	Area (%)		Nationwide
White	2.55%		69.32%
Black	0.00%		11.19%
Hispanic	1.35%		14.91%
Asian/Pacific Islander	0.08%		4.08%
Native American	96.02%		0.48%

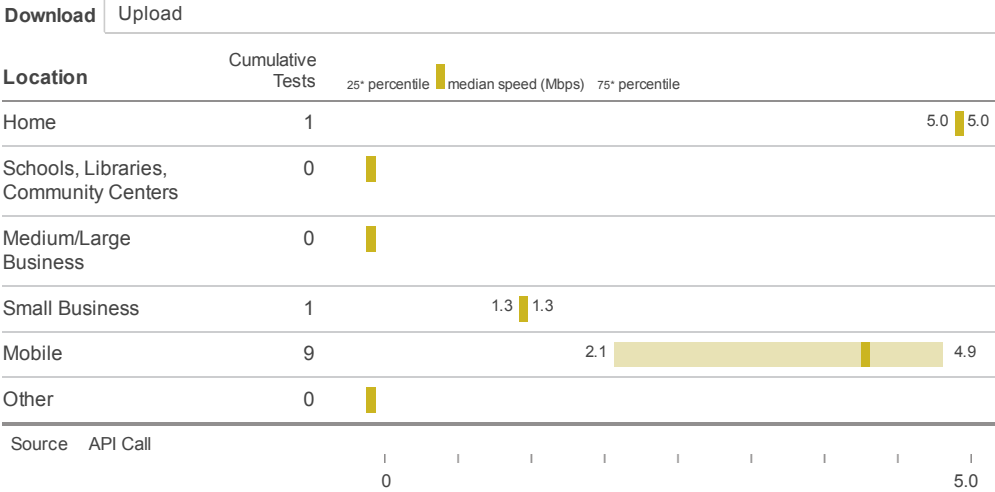
Income	Area (%)		Nationwide
Median income	\$37,983		\$58,811
Poverty rate	27.23%		15.81%
Below \$25k	34.76%		24.04%
\$25k-\$50k	34.77%		24.58%
\$50k-\$100k	25.59%		30.66%
\$100k-\$200k	4.21%		16.50%
\$200k or more	0.67%		4.21%

Education	Area (%)		Nationwide
High School graduate	65.91%		79.93%
Bachelor's degree or higher	7.94%		24.84%

Source API Call



Broadband Speed Test (Mbps)



Community Anchor Institutions

Download Upload

Institution	Total Number of Records	Subscribe to Broadband			Speeds Reported	
		Yes	No	Not Provided		
Schools K through 12	2	1	0	1	1	<div><div></div></div>
University, College, other post-secondary	1	0	0	1	0	<div><div></div></div>
Libraries	1	1	0	0	1	<div><div></div></div>
Medical / Healthcare	2	0	0	2	0	<div><div></div></div>
Public Safety	4	0	0	4	0	<div><div></div></div>
Community Centers - Government support	4	1	0	3	1	<div><div></div></div>
Community Centers - Non-Government support	0	0	0	0	0	<div><div></div></div>

Source API Call

Download Community Anchor Institutions data on the download page

Map »

Map my community

Rank »

Rank my community

Provider »

View statistics about providers

Broadband Classroom »

Learn more about broadband

Engage »

Build a better map for my community

Blog »

Your Feedback is important!
posted by Anne Neville on February 16, 2011

Updates »

Sign up and receive updates about the National Broadband Map

Analyze » Summarize

Native Nations » Fort Apache

Below is a summary of the broadband characteristics for the area listed above. The broadband data below is as of June 30, 2014 and represents data collected by SBDD grantees. Click on the section headings to see more information.

Print this page • Export Data

Wireline

Download		Upload	
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	44.0%	<div><div></div></div>	94.8%
Download > 3Mbps	84.5%	<div><div></div></div>	95.4%
Download > 6Mbps	1.9%	<div><div></div></div>	94.2%
Download > 10Mbps	1.9%	<div><div></div></div>	92.9%
Download > 25Mbps	0.9%	<div><div></div></div>	85.3%
Download > 50Mbps	0.9%	<div><div></div></div>	83.2%
Download > 100Mbps	0.0%	<div><div></div></div>	64.8%
Download > 1Gbps	0.0%	<div><div></div></div>	7.9%
		Source	API Call

Wireless

Download		Upload	
Speed	Percent Population		Nationwide
Dn>3Mbps Up>768kbps	10.7%	<div><div></div></div>	99.3%
Download > 3Mbps	10.7%	<div><div></div></div>	99.3%
Download > 6Mbps	10.7%	<div><div></div></div>	98.5%
Download > 10Mbps	10.7%	<div><div></div></div>	98.2%
Download > 25Mbps	0.0%	<div><div></div></div>	14.0%
Download > 50Mbps	0.0%	<div><div></div></div>	6.6%
Download > 100Mbps	0.0%	<div><div></div></div>	4.3%
Download > 1Gbps	0.0%	<div><div></div></div>	0.1%
		Source	API Call

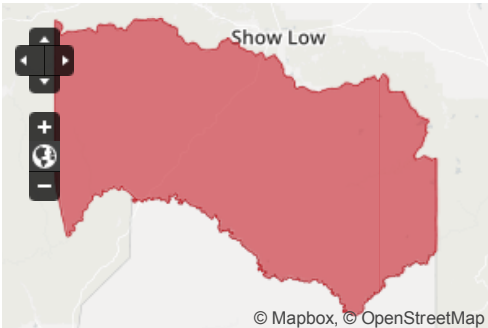
Technology	Percent Population	Nationwide			
DSL	86.3%	90.0%			
Fiber	0.0%	25.4%			
Cable	0.9%	88.8%			
Wireless	12.8%	99.4%			
Other	0.0%	0.0%			
		Source	API Call		

Number of Internet Providers

Share »

Share this page with my community

Print



Demographics

Total area (sq miles)	2,601
Population	14,070
Housing Units	4,737

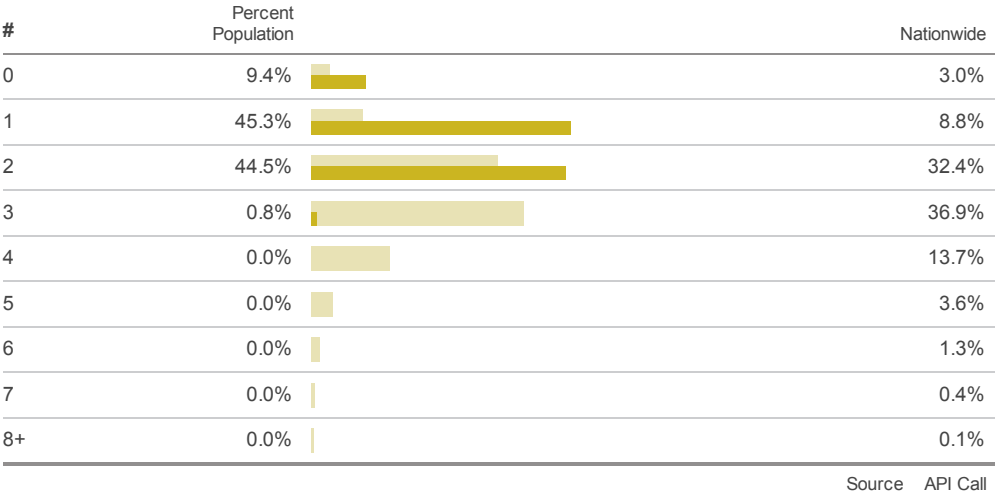
Age	Area (%)	Nationwide	
under 5	9.38%	5.73%	
5 - 19	31.43%	20.76%	
20 - 34	24.42%	19.57%	
35 - 59	24.52%	32.66%	
60+	10.25%	21.28%	

Race	Area (%)	Nationwide	
White	3.24%	69.32%	
Black	0.00%	11.19%	
Hispanic	2.12%	14.91%	
Asian/Pacific Islander	0.36%	4.08%	
Native American	94.27%	0.48%	

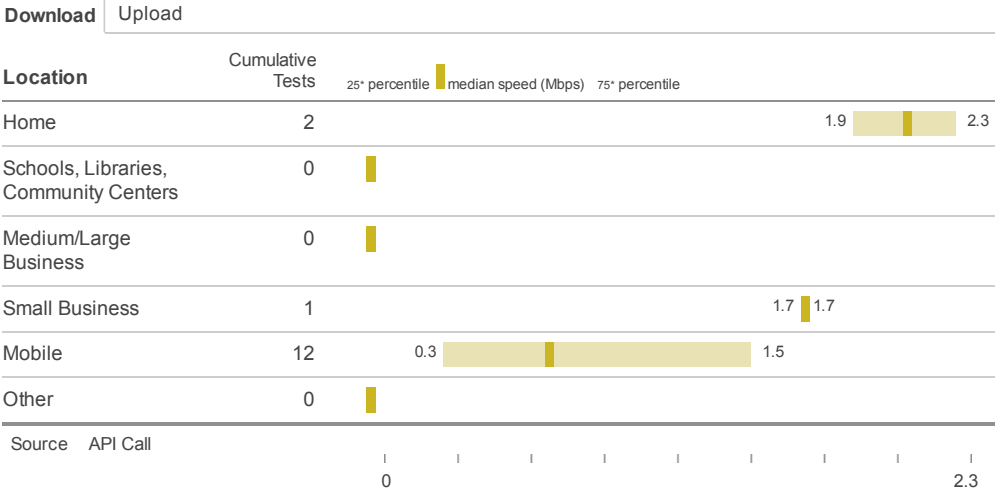
Income	Area (%)	Nationwide	
Median income	\$29,315	\$58,811	
Poverty rate	27.15%	15.81%	
Below \$25k	50.51%	24.04%	
\$25k-\$50k	22.03%	24.58%	
\$50k-\$100k	22.08%	30.66%	
\$100k-\$200k	5.28%	16.50%	
\$200k or more	0.10%	4.21%	

Education	Area (%)	Nationwide	
High School graduate	53.40%	79.93%	
Bachelor's degree or higher	4.08%	24.84%	

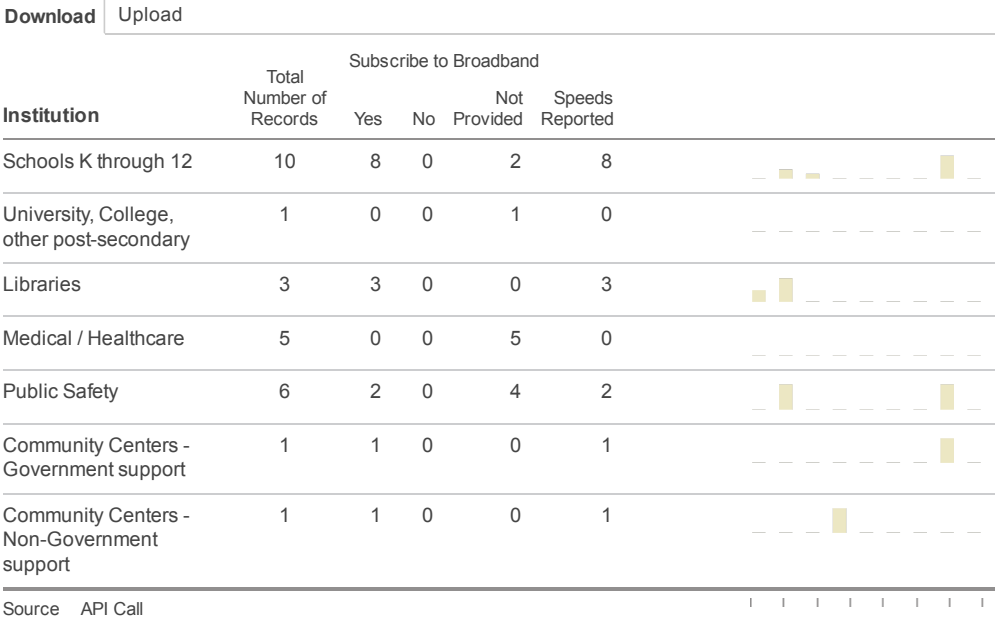
Source API Call



Broadband Speed Test (Mbps)



Community Anchor Institutions



Download Community Anchor Institutions data on the download page

Map »

Map my community

Rank »

Rank my community

Provider »

View statistics about providers

Broadband Classroom »

Learn more about broadband

Engage »

Build a better map for my community

Blog »

Your Feedback is important!
posted by Anne Neville on February 16, 2011

Updates »

Sign up and receive updates about the National Broadband Map